The DIY Manual.

Free From Fuel HHO Workshop

L.O.V.E Productions
Living Oneness - Vast Evolution

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The Fine Print:

These DIY instructions are not intended for the average consumer. DIY assembly definitely requires technical skill, patience and enthusiasm. We also assume that you are an adult and can therefore take full responsibility for yourself. If not, ask your parents to provide you with a professional.

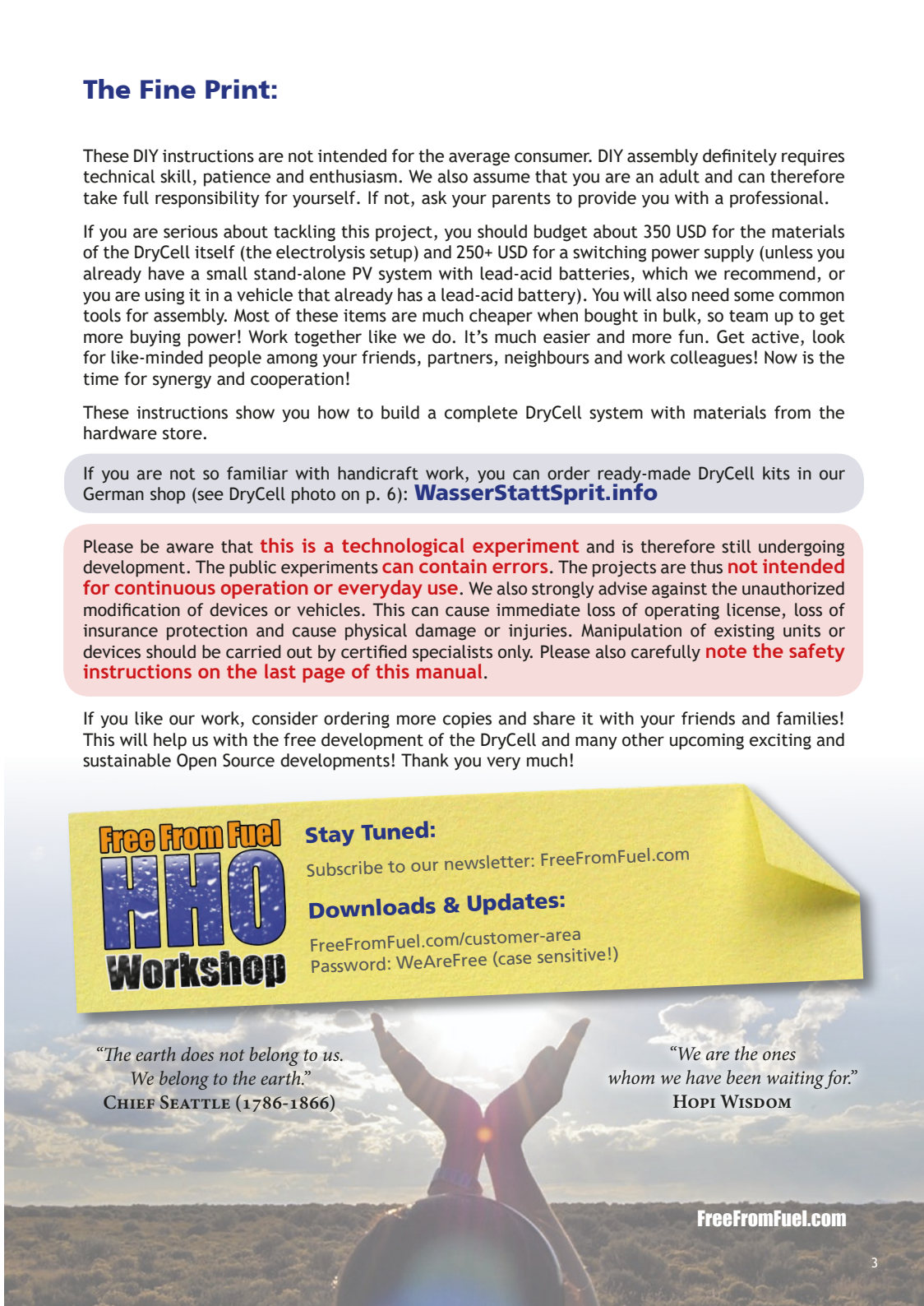
If you are serious about tackling this project, you should budget about 350 USD for the materials of the DryCell itself (the electrolysis setup) and 250+ USD for a switching power supply (unless you already have a small stand-alone PV system with lead-acid batteries, which we recommend, or you are using it in a vehicle that already has a lead-acid battery). You will also need some common tools for assembly. Most of these items are much cheaper when bought in bulk, so team up to get more buying power! Work together like we do. It's much easier and more fun. Get active, look for like-minded people among your friends, partners, neighbours and work colleagues! Now is the time for synergy and cooperation!

These instructions show you how to build a complete DryCell system with materials from the hardware store.

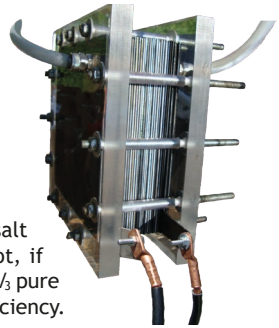
If you are not so familiar with handicraft work, you can order ready-made DryCell kits in our German shop (see DryCell photo on p. 6): **WasserStattSprit.info**

Please be aware that **this is a technological experiment** and is therefore still undergoing development. The public experiments **can contain errors**. The projects are thus **not intended for continuous operation or everyday use**. We also strongly advise against the unauthorized modification of devices or vehicles. This can cause immediate loss of operating license, loss of insurance protection and cause physical damage or injuries. Manipulation of existing units or devices should be carried out by certified specialists only. Please also carefully **note the safety instructions on the last page of this manual**.

If you like our work, consider ordering more copies and share it with your friends and families! This will help us with the free development of the DryCell and many other upcoming exciting and sustainable Open Source developments! Thank you very much!



How it all began...



In 1899 Charles H. Duell wanted to close down the U.S. patent office forever because "everything was already explored", he thought.

The Old Experiment: We all know electrolysis from school. A bucket of salt water, two metal rods inside, electricity, and here come the bubbles (or not, if the teacher forgot to add salt). What we get then is $^2/_3$ pure hydrogen and $^1/_3$ pure oxygen. This easily ignites and pops loudly. Cheers from the class. But no efficiency.

Invented And Forgotten: The ancient Chinese already knew this. It fell into obscurity until Michael Faraday, a British bookbinder and hobbyist, rediscovered it some 200 years ago. During WW1 technicians found out that efficiency could be increased enormously by placing steel plates closely side by side, so that very little soapy water fit between the narrow plates. When applying power to the plates one got a lot of high-energy detonating gas — much more than Faraday got. Believe it or not, this is how it still works today, except that it is now a lot easier to rebuild even with materials from the hardware store.

In 1935 Henry Garrett built an electrolytic carburetor for his water-powered car, and nobody noticed. In **1962** William A. Rhodes coincidentally re-invented the same electrolysis unit as in WW1. Both of them fell into oblivion for various reasons. Meanwhile descendants of the war technicians brought the old knowledge to Australia.

1980ies: In the U.S., Bob Boyce used this invention in public and was imprisoned for decades. When he was finally released, doctors discovered that a deadly computer chip had been implanted into his arm. You can find pictures of this on his website at **bobboyce.org**.

1990ies: In Australia, Yule Brown heard about it, reconstructed the device and sold it to Asian companies. The odd gas was a great success. They could melt any given material within seconds and even run gasoline engines and gas turbines with it. Asian companies started to manufacture large industrial welding equipment, while Europe slept. The U.S. military visited Brown and marvelled at a car converted to use water for fuel. Brown demonstrated that radioisotopes changed into non-radiating elements when brought to the oxyhydrogen flame. It was an unbelievably easy way of transmutation! The world took no notice.

Online: Old photographs were shared at discussion platforms. The principle was reconstructed again. This time the hobbyists worked together. Engines were silently modified. The international safeguard organisation **PanaceaTech.org** published the principle to ensure that the knowledge would remain free, for what is published once can not be patented and hidden any more.

This is now a free invention, free of patents; it is Public Domain! Anyone can join in, replicate and develop this technology free of charge. There is no more secrecy. The unit is called "DryCell" to distinguish it from Faraday's "WetCell", which consumed much more water.

2010: Still it was inside knowledge to a few people only. Then suddenly strange things happened. Large numbers of critics ("trolls") started threatening the hobbyists, claiming that this was all impossible — even when given facts, photos and invitations to join in. As the threats got dangerous and personal data were published, the European developers decided to expand beyond the internet.

The Film: It was early summer of 2010 when the very first DIY workshop took place under some really adventurous conditions on a remote farm in Austria, Europe. We filmed every step and published the video on Youtube as fast as we could, for what is available once online will never be a secret any more. Free knowledge must remain free.

Spreading The Word: A few days later, hobbyists started posting films on the net in which they showed their water heating systems, cars and lawnmowers running on water. They were all DIY made, with materials from the hardware store. Total costs: 300-400 USD. You can do it, too. We show you how to heat with water (p. 47) and power engines from water (p. 50-53). Free knowledge, free people!

This is no "Free Energy"! The energy origins from the sun, it is stored within the water. The electrolysis is just a stimulus like the spark of a lighter, a cranking motor or a skipper when setting sails. They all just unleash other (more powerful) forces of nature. More about this on page 59.

Yes, water is full of energy! That's why we drink it. The naturalist Viktor Schauberger was right: We know next to nothing about water. It is full of life and mysteries and secrets.

No More Secrets: This little invention is no secret any more. It is free, public domain. Anyone can join in, tinker, evolve it. But be aware that it needs *free humans* and a free world to use free knowledge! Until then we have to work on that better world for our children — with love, with every word, with everything we do. Love is the only free energy we know of. More on page 64.

Sleeping Beauty: The mainstream media ignore us. Quite a few journalists ordered the instructional video. But still the DryCell has never been officially analyzed, although we have shown it to many enthusiastic university professors, even right in front of our camera. If we were wrong, they could refute us with ease, couldn't they? Sleeping Beauty slept for 100 years, but the Universities have been asleep since Faraday. So let's let sleeping dogs lie. More on p. 64

Why don't we just bring this little invention to the market? We are free spirits. We think that over consumption makes us stupid. Knowledge, however, makes us free and self-sufficient.

Do It Yourself! We thank all the hobbyists, pro's and developers from all around the world who have invested so much time, money and effort, free of charge for a better world. And we thank you, Peter, for allowing us to film you so often. This takes significant courage.

We thank you all! Each of us is changing the world. We are very glad for the many new ideas and corrections you all give us every day! Forgive us the occasional errors. We are still learning. And if this guide becomes outdated someday, then our work will have been successful!

Updates: You find all the latest news, enhancements and developments free of charge here:

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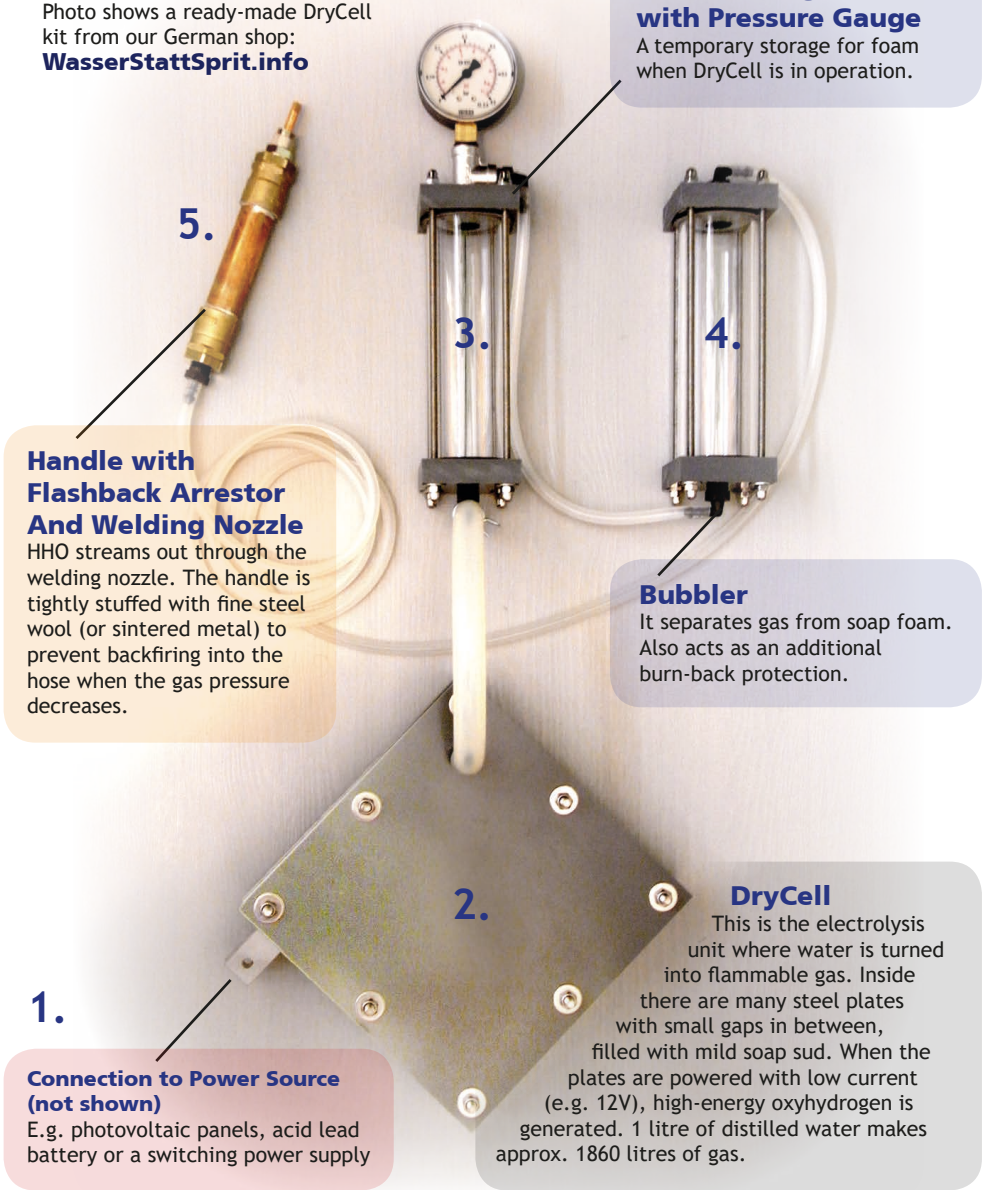
Ready-To-Use-Kits: If you are not so familiar with handicraft works, you can order ready-to-use DryCell-Kits from our German store (see DryCell photo on p. 6): **WasserStattSprit.info**

Free knowledge for a free world!
Have fun DIY crafting and all the best!

DryCell Functional Principle

DIY Small DRYCELL

Photo shows a ready-made DryCell kit from our German shop:
WasserStattSprit.info



Water Storage with Pressure Gauge
A temporary storage for foam when DryCell is in operation.

Handle with Flashback Arrestor And Welding Nozzle
HHO streams out through the welding nozzle. The handle is tightly stuffed with fine steel wool (or sintered metal) to prevent backfiring into the hose when the gas pressure decreases.

Bubbler
It separates gas from soap foam. Also acts as an additional burn-back protection.

DryCell
This is the electrolysis unit where water is turned into flammable gas. Inside there are many steel plates with small gaps in between, filled with mild soap sud. When the plates are powered with low current (e.g. 12V), high-energy oxyhydrogen is generated. 1 litre of distilled water makes approx. 1860 litres of gas.

Connection to Power Source (not shown)
E.g. photovoltaic panels, acid lead battery or a switching power supply

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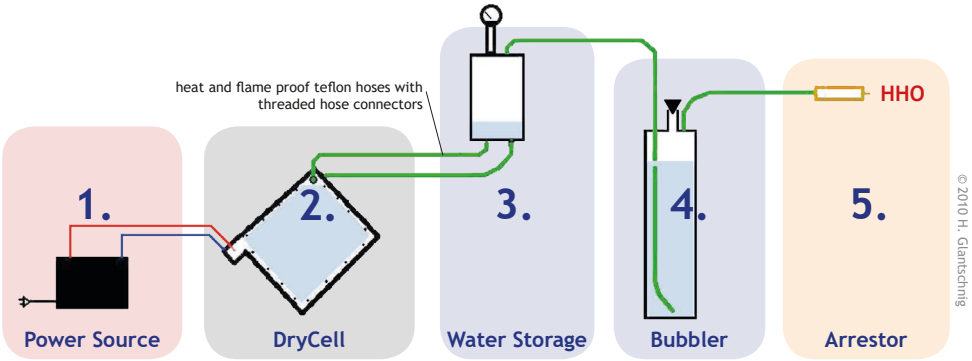
This is how the so-called **"DryCell"** works (it is called a "dry" electrolysis unit because it consumes very little water). With this simple technique you can convert water into oxyhydrogen (Brown's Gas, HHO). The electrolysis of water is an old invention and so simple that it even works with materials from the hardware store. The gas is cheap to produce and environmentally friendly. It is flammable and contains more energy than crude oil or natural gas.

The principle is as ingenious as it is simple: All you need is mild soapy water and electricity for electrolysis (the best is from photovoltaic or wind power). The many narrow steel plates give high efficiency. In between the plates there is a very mild soapy solution (3% soap in distilled water). By applying power to the plates, a large volume of flammable gas is produced.

The energy naturally just comes from the water itself. The electrolysis is just a stimulus like a piece of flint, a cranking motor or a skipper setting sails. They all just unleash other (and much more powerful) energies. The gas can by ignited immediately and used for welding (p. 46) or heating (p. 47), or as an additive in an internal combustion engine (pp. 50-53) to save fuel.

1kg of crude oil = approx. 35 MegaJoules
1kg of H_2 = approx. 120 MegaJoules



schematics based on © 2010 H. Glantschnig

1. **Power Source**
Switching power supply or lead acid battery. Use 1.7 - 2.4V/chamber (depending on operating temperature), <30A total.

2. **Electrolysis Unit "DryCell"**
Inside: Steel plates (1.4571, V4a) with 1mm gaps, using 1mm EPDM pond liner as seals. The space inside is filled with 0.5-3% soap water: Mix distilled water with KOH (0.5-3% KOH per mm gap between the DryCell steel plates). HHO gas is produced inside the narrow chambers when applied electricity: 1st plate (+), last plate (-). Change of polarity now and then increases life span of the unit. Refill with distilled water only. Best efficiency when operating at 45-60°C. Cover plates: 15mm Acrylic, PE or HD PVC.

3. **Water Storage**
with pressure gauge (<400mbar). It is an expansion reservoir, when the water turns into foam during operation. After operation it becomes more or less empty again.

4. **Bubbler**
Water filled burn-back protection. It is a one-way valve and separates HHO from foam.

5. **Handle with Welding Nozzle**
Inside the handle: Sintered metal or tightly stuffed fine steel wool as a flashback arrestor

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Size Comparison

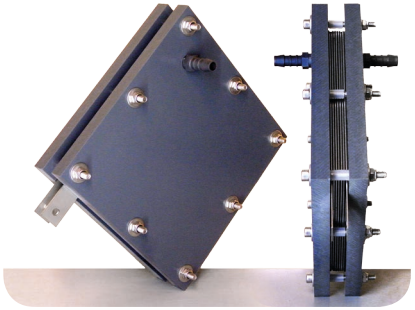
We build our DryCells in 2 sizes (20cm and 30cm). The efficiency is the same, both draw electrically 130-160W/l gas (depending from individual make, skills and other factors). They just differ in size, weight, cost and output.

This manual teaches you how to build these from scratch with materials from the local hardware store. If you are not so familiar with handicraft works, you can order ready-to-use DryCell-Kits from our German store (see photo on p. 6): **WasserStattSprit.info**

Here is a comparison to help you decide which DryCell is best for you:

Small DIY DRYCELL

As shown on p. 6
Assembly: p. 9-23



**Designed for smallest shape.
Sufficient for most applications.
For mobile engine use as an additive.**

12V System (expandable)

Power Source:
car battery, switching power supply, stand-alone photovoltaics system,...

Possible Applications:
Welding Torch p. 46
Underwater Flame p. 58
Lime Light p. 47

Engine Experiments:
4-stroke engines using Oxyhydrogen as an additive, model engines using pure Oxyhydrogen

Heating Experiments:
up to 8m² room size

Large DIY DRYCELL

As shown on film.
Assembly: p. 28-33

**Designed for maximum gas output.
For large heating experiments and engines running on pure oxhydrogen.**

12-48V System (expandable)

Power Source:
truck battery (12-24V), switching power supply (12-48V), large PV systems,...

Possible Applications:
Welding Torch p. 46
Underwater Flame p. 58
Lime Light p. 47

Engine Experiments:
Gas turbines and 4-stroke engines using Oxyhydrogen as an additive or running on pure Oxyhydrogen

Heating Experiments:
12V: 6-10m² room size
24V: 10-15m² room size
48V: 15-20m² room size

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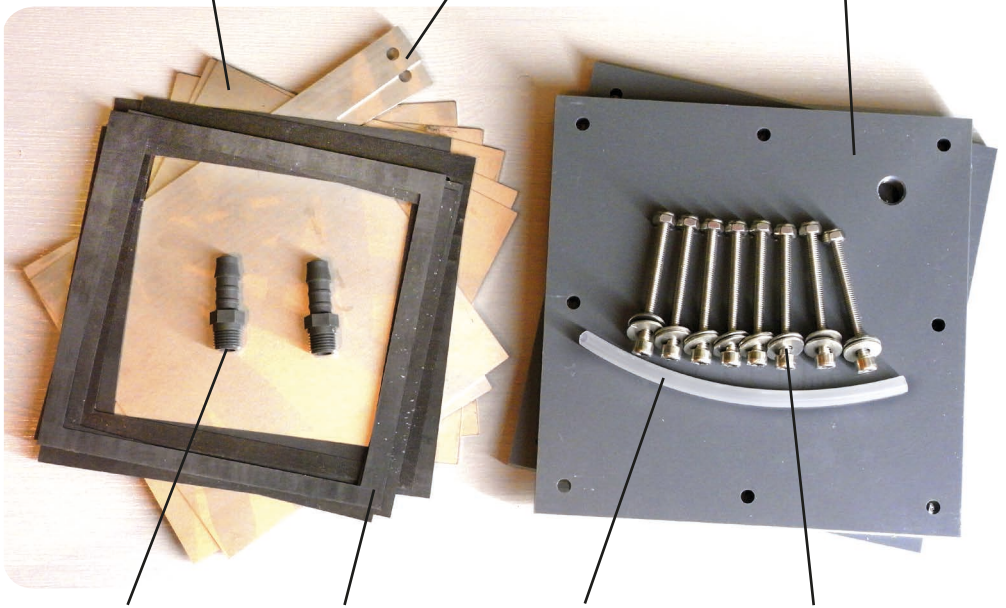
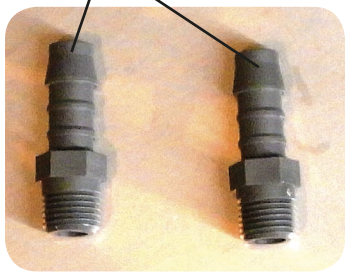
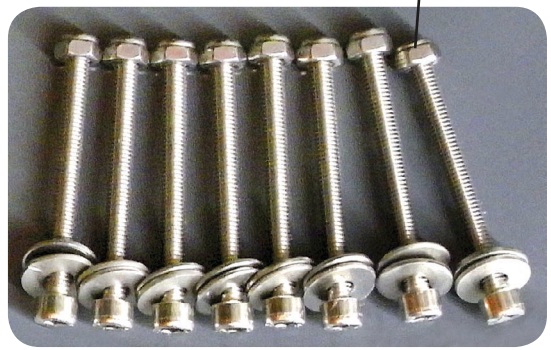
Small DIY DRYCELL KIT — Small 12V DryCell

The **Small 12V DryCell** consists of the following parts:







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2 Cover Plates

Quantity	2 pieces
Material	Acrylic, PE or HD PVC, heat resistant up to 90°C
Measures	195x195x15mm (thick enough to screw a thread in)
Blowhole	1x 12mm drill hole (=13.2mm thread for ¼" hose connector) center distance 36mm from rim
Screw Holes	8x diameter 6,5mm (for M6 rods) center distance 13mm from rim

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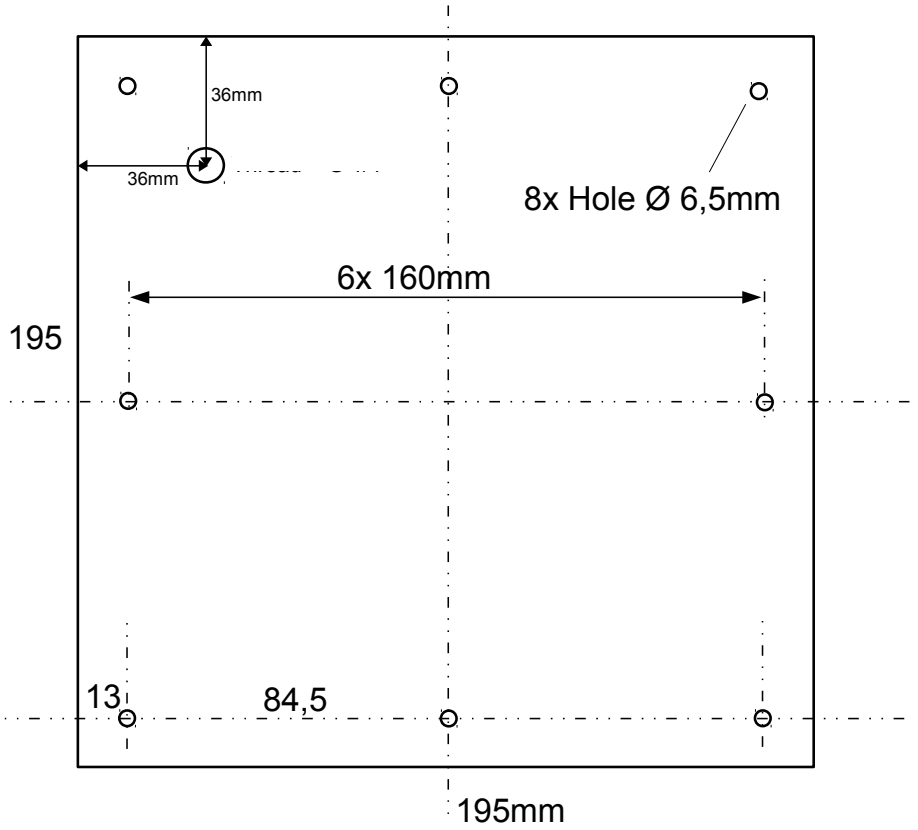

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Small DIY DRYCELL KIT Small 12V DryCell

EPDM Rubber Seal

Quantity	8 pieces (for 12V operation) The number of plates and seals depends on your power supply. See p. 37
Material	pond liner from EPDM (ethylene-propylene-diene-monomere-rubber) Yes, pond liner! The funny thing is, EPDM withstands pressure and heat much better than normal rubber foil. You can find it in almost any hardware store. Cut it with a sharp knife. A master plate saves you time.
Measures	outside 160x160mm inside 140x140mm
Thickness	1mm (thickness may differ slightly)

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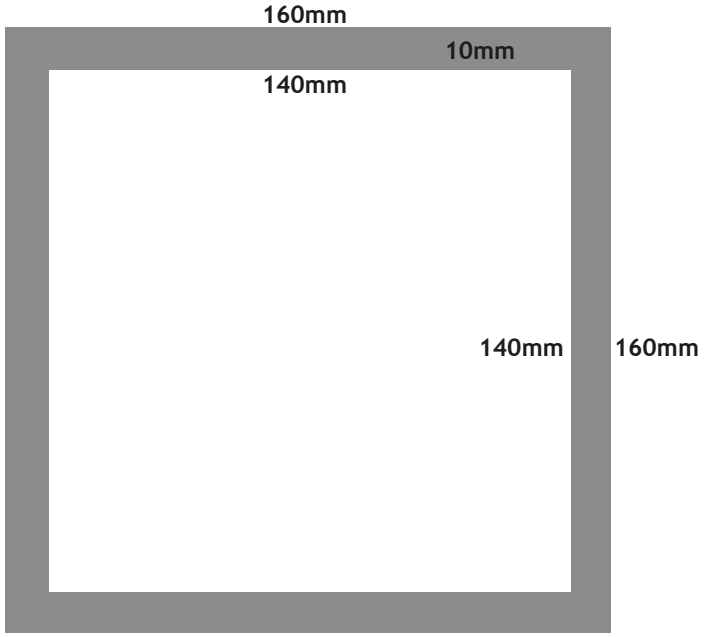

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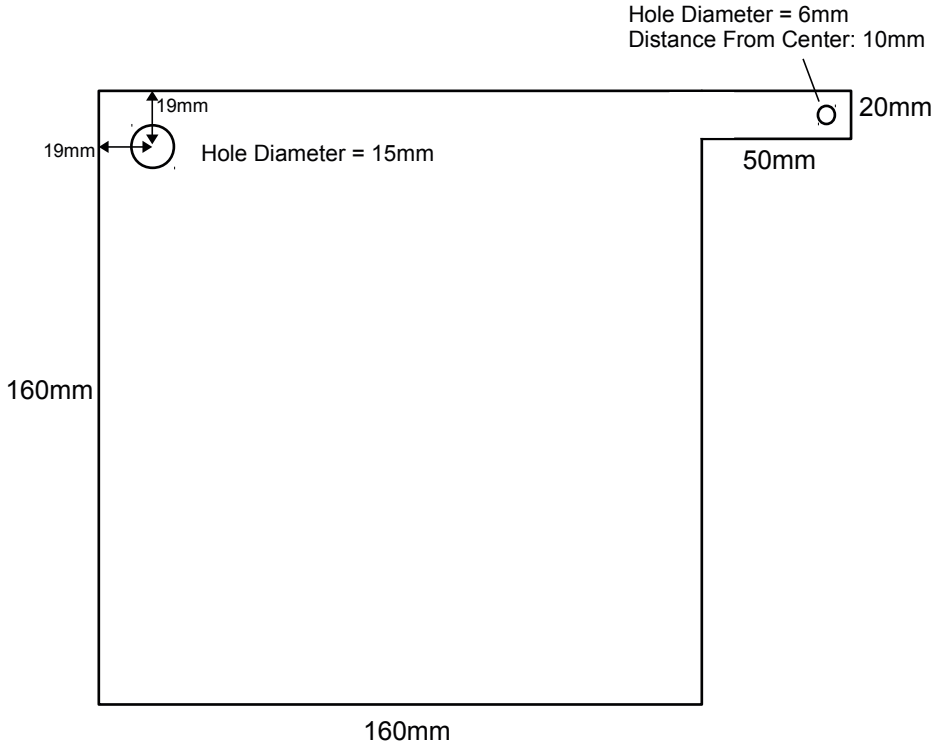
2 Steel Plates With Power Connector

Quantity	2 pieces
Material	Stainless Steel, V4A, material no. 1.4571 (or similar). Any steel is sufficient, because they all rust sooner or later. Be careful with alternatives: Copper makes green rust, aluminum corrodes instantly, titanium has to be coated with rare earth compounds. Thus, steel is quite ok.
Measures	160x160mm (without power connector edge)
Thickness	1mm or less (the thinner, the better. Steel is sold by weight!)
Power Connector	50x20mm edge with a 6mm hole



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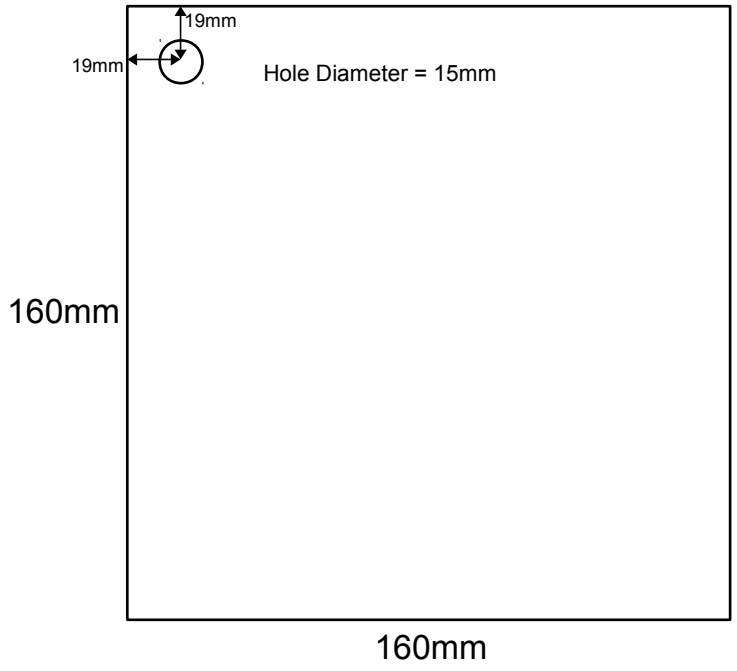
DIY Small DRYCELL KIT Small 12V DryCell

5 Steel Plates Without Power Connector

Quantity	5 pieces (for 12V operation) The number of plates and seals depends on your power supply. See p. 37

Cut out as the steel plates before, but just without the edge.



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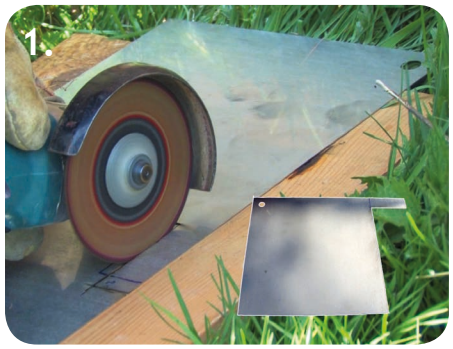

Cut all the steel plates and cover plates into shape (dimensions see p. 9-23). If you don't have a CNC mill, use an angle grinder.

Drill the screw holes and the larger blowhole into the 2 cover plates. A drill stand will help. Note: Image shows plate variants for the Large DryCell. For correct dimensions of the Small DryCell see p. 9-23

Then drill the 15mm blowhole into each steel plate (dimensions see p. 9-23).

Screw a ¼"-thread into the 12mm blowhole of each cover plate.

Cut the EPDM pond liner into seals. Use a sharp knife. A master plate (from wood or whatever you have at hand) saves you time.

HINT: Heat the Acrylic Plates!

If you are using acrylic, fine hairline-cracks can appear in the acrylic from the treatment, resulting in leakage. So after step 3 you can ease the acrylic again with heat: Slowly warm up to 70°C (in a sauna or water-filled pot), and keep for some hours at 70°C. Duration = material thickness/3. That means: 20mm = 6h, or 25mm = 8h. Cool down slowly, max. 15°/h. Duration = material thickness/4. For 20mm = 5h, 25mm = 6h. Alternative: Heat resistant PE or HD PVC tears less easily.

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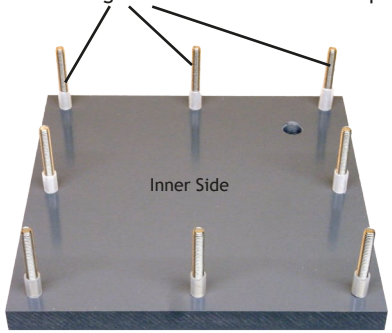
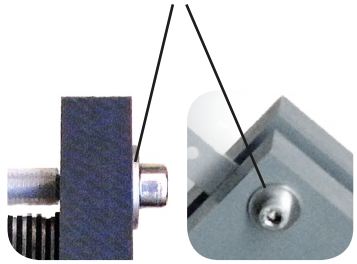
DIY Small DRYCELL KIT Small 12V DryCell

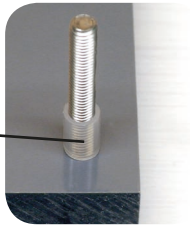
5. Poke the **8 short threaded rods** through the 8 holes of one cover plate.



Insert a washer on the outside each time:



6. **Cut the 6/10mm hose into 8 pieces of exactly 13mm.** Slip them onto the threaded rods as far as possible. They will prevent short circuits between the plates.



7. **Clean and passivate steel plates before assembling:**

Clean all the steel plates with Acetone (nail polish remover) and a soft cloth. Rinse well.

From now on touch with gloves only to keep the plates clean. Stains and grease would reduce efficiency.

NO Passivation needed. Continue to step #8.

In the beginning we wanted to make our steel plates rust proof. As we found out, the steel plates automatically get rust proof from the KOH electrolyte itself.

If you cells start to rust: This is just a cosmetic issue and does not affect the functionality. If you still want to clean your cell, just disassemble it and carefully rinse the plates with acetone or turpentine. Never brush your plates, this could cause scratches to the plate.

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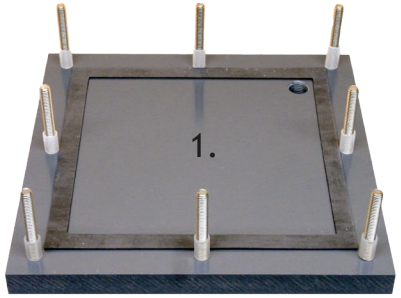
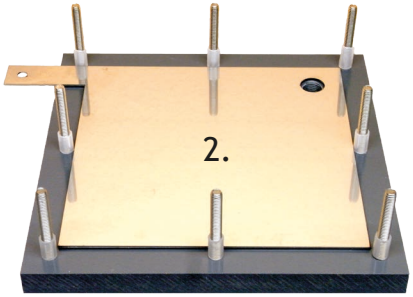
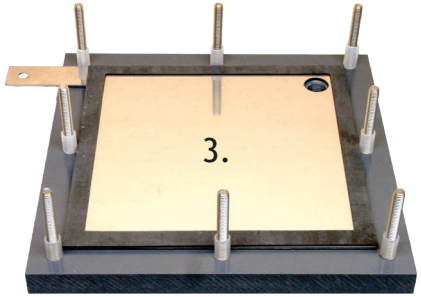
8. Apply to the cover plate:



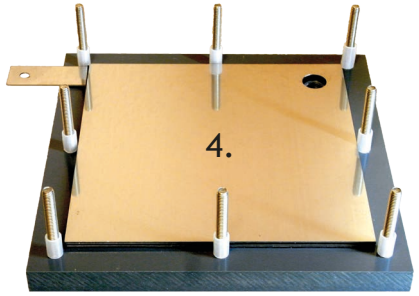
First rubber seal



First steel plate with power connector edge



Second rubber seal



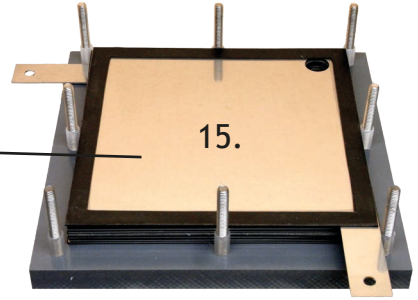
First normal steel plate

Continue applying 1 rubber seal, 1 steel plate and so on alternately (not shown).

The last plate is the 2nd steel plate with a power connector edge (see picture). Cover it with the last rubber seal.

Important:

All the cover plates and steel plates have one blowhole. These blowholes must all be exactly on top of each other! This is for the gas outlet.



Last steel plate again has a power connector edge. Cover it with last seal.

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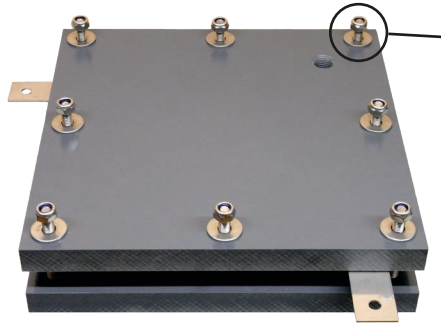
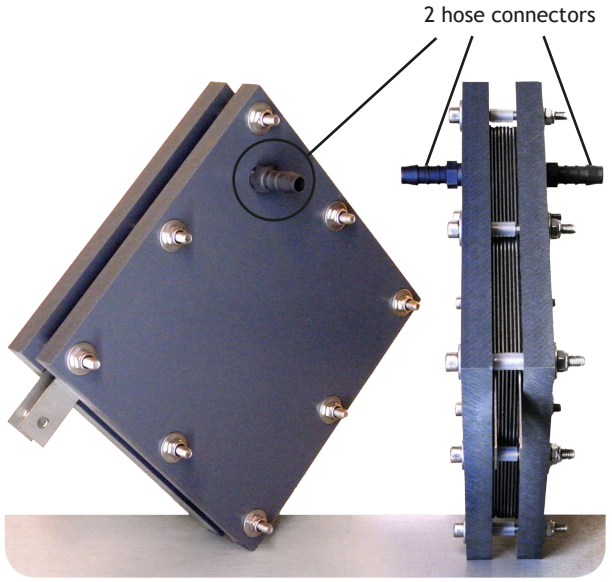
9. Apply second cover plate. Screw DryCell together *tightly* with the remaining washers and screw nuts.



Both cover plates: Do not tighten the screw in the corner next to the blowhole right now. It will help you to mount the hose connectors much easier.

10. Screw the 2 hose connectors into the blowholes of the cover plates:



Seal threads with teflon tape:

Wrap each hose connector thread with a few rounds of teflon tape before screwing it in.

Now tighten the screws next to the hose connectors. Tighten *all* screws!

Hold DryCell under water (no wires attached!), blow into one hose while keeping the other hose shut: The DryCell must be absolutely airtight.

That's it!

Your DryCell is now ready for use. But let's assemble the other parts first. So read on...

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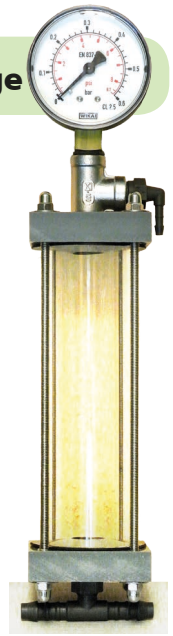
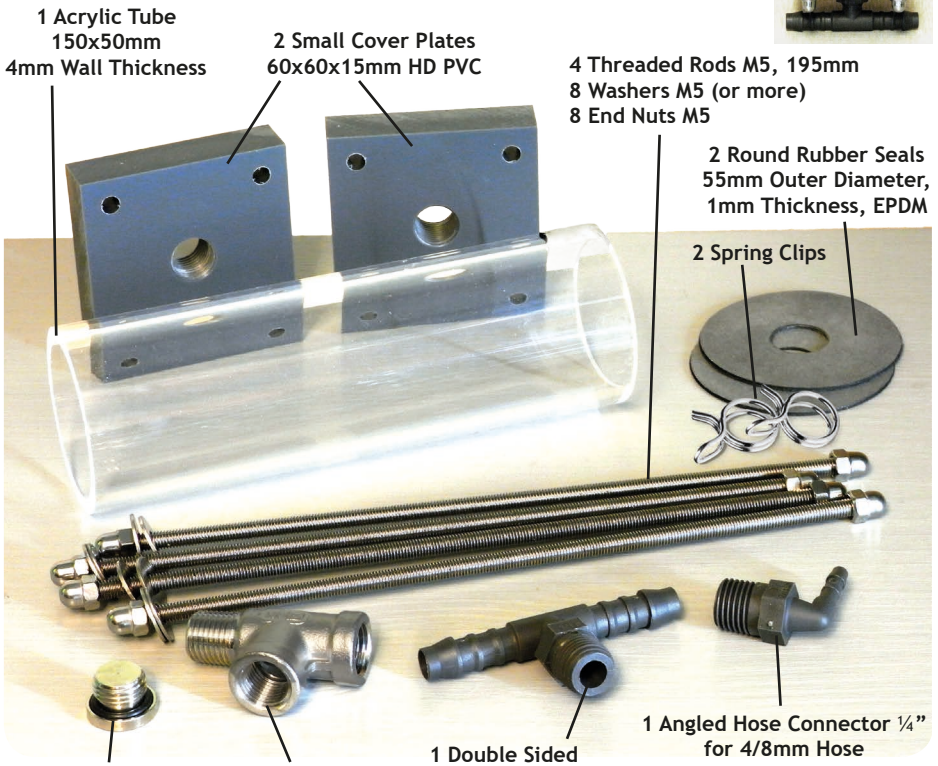


Small Water Storage

The **Small Water Storage** is in fact a temporary reservoir which in operation contains all the foam that expands from the DryCell. When you switch off the DryCell, the foam flows back into the DryCell, and the storage is more or less empty again.

The **Small Water Storage** consists of the following parts:



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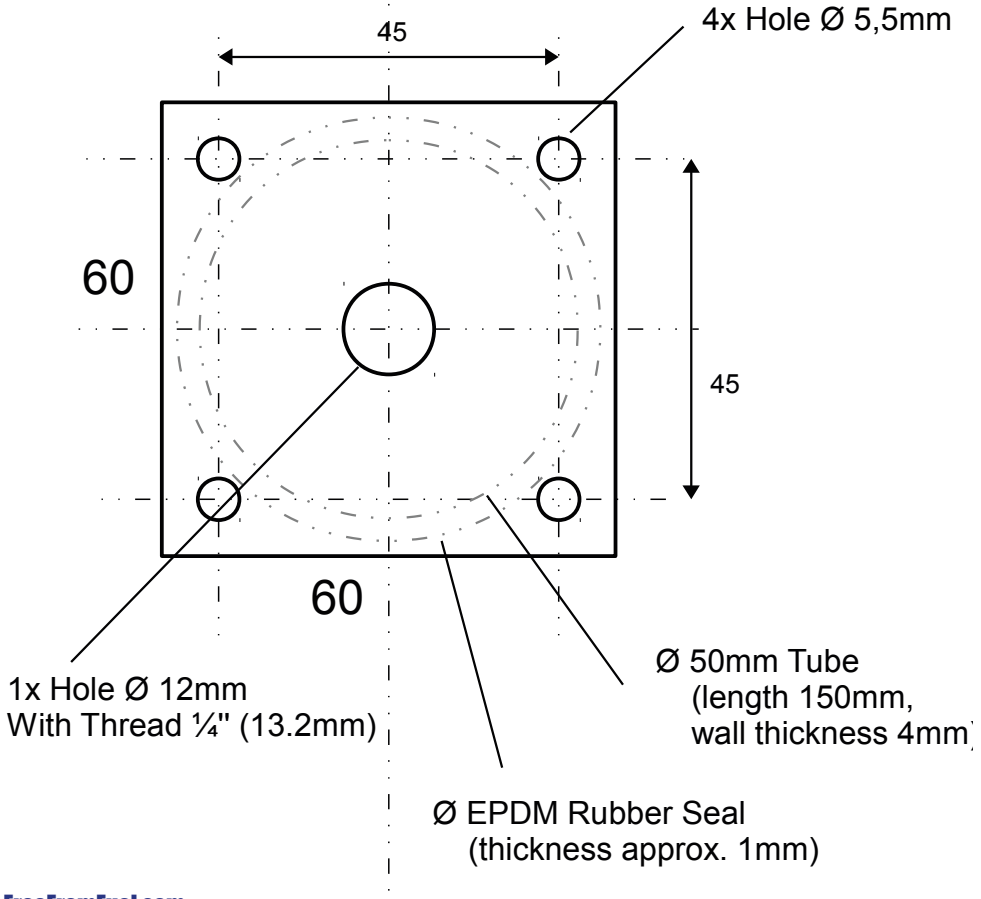
Small Water Storage + Small Bubbler:

Cover Plates

Quantity	4 pieces (2 for the Storage, 2 for the Bubbler, because "Small Water Storage" and "Small Bubbler" are made from the same cover plates)
Material	HD PVC, grey
Measures	60x60x15mm

Image Scale of 1:1 when printed in A5 size



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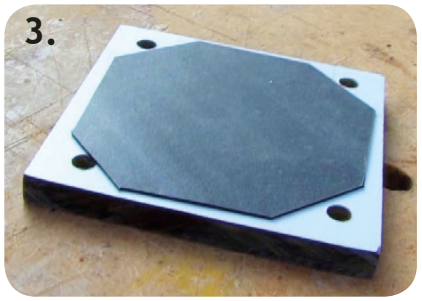
1. **Drill the 5.5mm screw holes and the 12mm center hole** into the 2 cover plates. A drill stand will help. Just as you did before with the DryCell Cover Plates (see p. 14).

Hint: Also prepare the Small Bubbler plates now. They are identical to the Small Water Storage. This saves you time.

2.

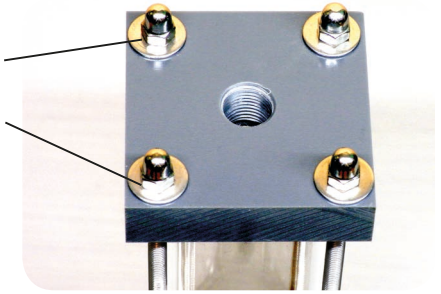
Screw a ¼"-thread into the 12mm center hole of each cover plate.

3.

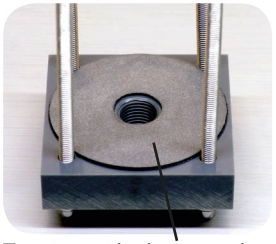


If you haven't bought pre-cut seals, cut 2 seals from EPDM pond liner, just like shown above. Use a sharp knife. A master plate (from wood or whatever you have at hand) saves you time.

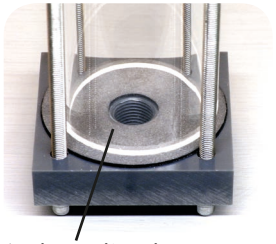
4. **Poke the 4 long threaded rods through the holes of one cover plate. Secure them with washers and end nuts.**



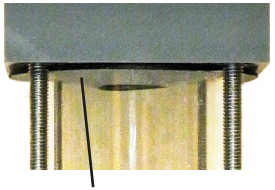
5.



Turn it upside down, apply round rubber seal centred



Apply acrylic tube on top of the rubber seal



Put the second rubber seal on top of the tube. Apply the second cover plate on top.

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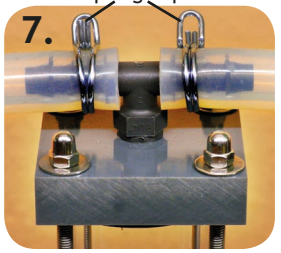
DIY Small DRYCELL KIT Small Water Storage

6.

Tighten with 4 remaining washers and 4 end nuts. Add washers if needed.

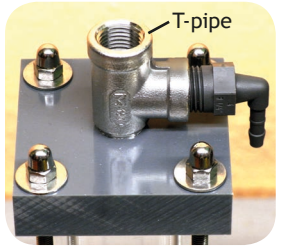
Wrap teflon tape onto thread of the double sided hose connector. Screw into the middle hole.

7. spring clips



Cut thick hose (from Accessories Set) into halves. Tighten with spring clips to the double sided hose connector.

8.



Turn upright.

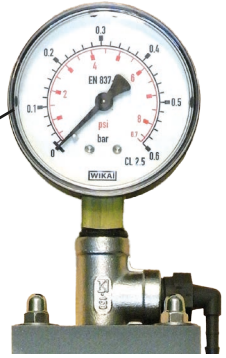
Wrap T-pipe with teflon tape. Screw into middle hole. Wrap teflon tape onto outer thread of angled hose connector. Screw into side outlet of T-pipe.

9. seal plug

If no pressure gauge available: Screw seal plug into upper outlet of T-pipe (gasket enclosed with plug).

Recommended:

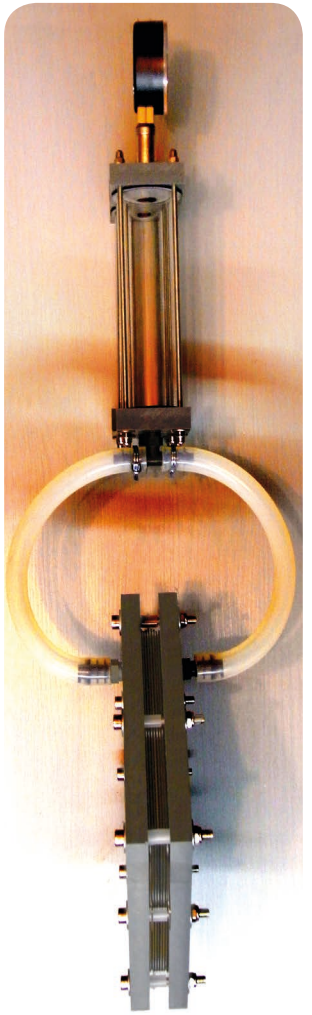
Mount a pressure gauge (e.g. WIKA ¼", 600mbar) instead of the plug.



10.

Done!

Later the water storage will be connected to the DryCell like this:



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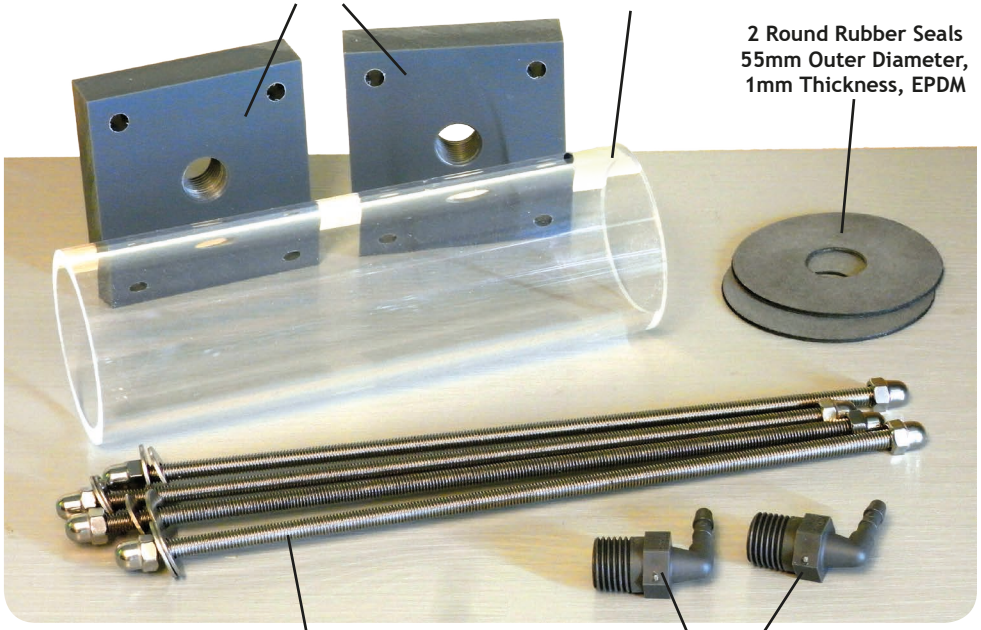
Small Bubbler

The **Small Bubbler** is a simple syphon, just like the odour trap in your toilet. It separates soapy foam from gas. The bubbler is ¾ of the way filled up with tap water. The foam and gas mixture is let into the water from below, and out comes just the gas. Very simple.

We never fill up the bubbler with water entirely. If water got into the outlet hose, it would instantly clog the steel wool inside the flashback arrestor.

The **Small Bubbler** consists of the following parts:



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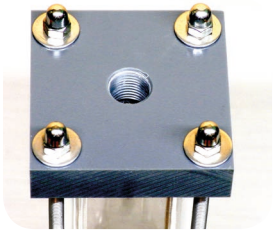
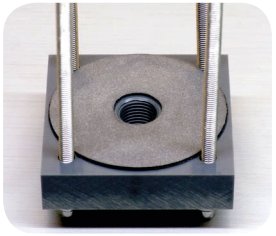
1.-3. See **Small Water Storage Assembling**, p. 18-21

4.



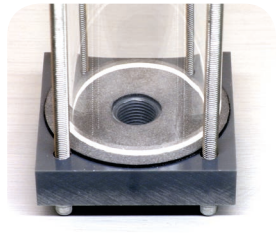
Poke the 4 long threaded rods through the holes of one cover plate. Secure them with washers and end nuts.

5.



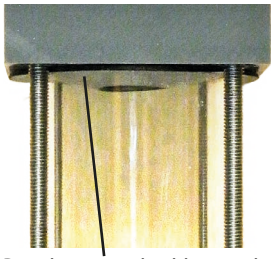
Turn Bubbler upside down. Apply a round rubber seal centred.

6.



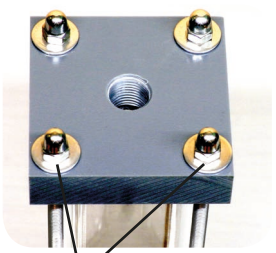
Apply acrylic tube on top of the rubber seal

7.



Put the second rubber seal on top of the tube. Apply the second cover plate on top.

8.



Tighten with 4 remaining washers and 4 end nuts. Add washers if needed.

9.

Wrap teflon tape onto thread of one hose connector. Screw into the middle hole.

10.

Turn upside down again.

Wrap teflon tape onto thread of the other hose connector. Screw into the remaining middle hole.

Done!

On p. 6 you can see how the **Small Bubbler** is connected to the setup.

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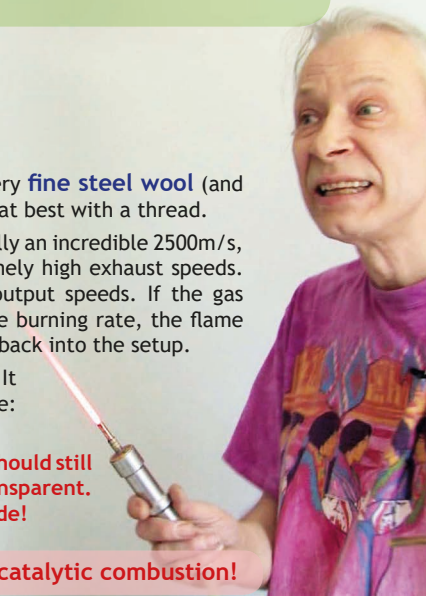
Flame Arrestor and Welding Nozzle



The flame arrestor is simply a short copper tube filled with very **fine steel wool** (and optionally **sintered metal**). It has to fit absolutely air tight, at best with a thread.

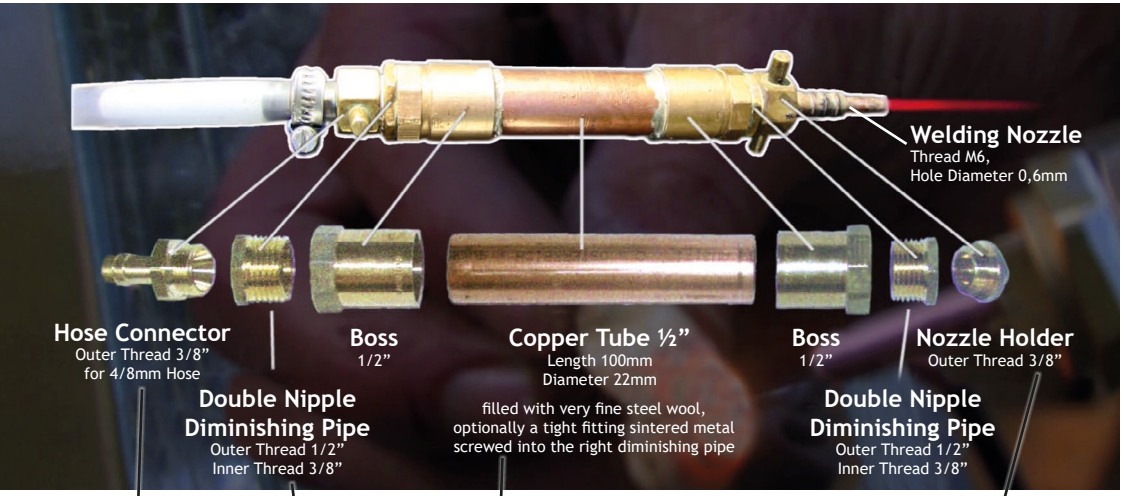
Did you know...? The burning rate of oxyhydrogen is actually an incredible 2500m/s, this is Mach 7.5 (7.5x the speed of sound!). These are extremely high exhaust speeds. We need an extremely narrow nozzle to ensure such high output speeds. If the gas pressure gets too low and the exhaust velocity falls below the burning rate, the flame will instantly start burning inside the handle. It can even flashback into the setup.

Sintered metal lets the gas through, but stops the flame. It cannot burn and cannot use up. You can find it here, for example:
sintershop.de/Sinterbronzefilter/Sinterbronzefilter-AM

The welding nozzle always gets hot when in use. The handle should still only get warm to the touch. The flame should be blue or transparent. A reddish-orange flame means that your arrestor is wet inside!

Always use a flashback arrestor, even with flameless catalytic combustion!

For the **Flame Arrestor** you will need the following parts:



1x

2x

50g of fine steel wool

Nozzle Holder
Outer Thread 3/8"

Welding Nozzle
0.6mm

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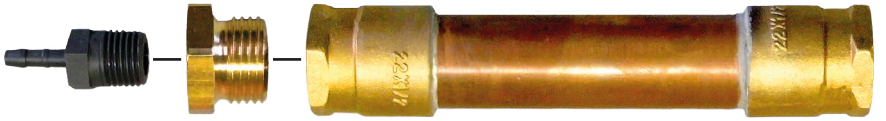
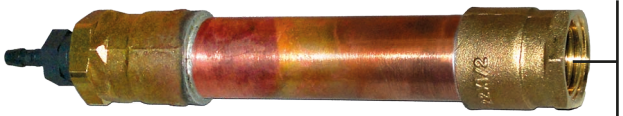
Cut ½" copper tube into 100mm length. Trim ends with a rasp to remove sharp remnants.

Weld bosses onto both ends of the copper tube

3. Screw 1 hose connector and 1 diminishing pipe into pre-assembled arrestor body. Wrap some rounds of teflon tape onto all threads to make it airtight.



4. Stuff the steal wool tightly into the arrestor body. Best use a wooden spool handle for this. Spare just a tiny bit of steel wool for later.



Fine steel wool comes in here.

Or screw **sintered metal** into inner 3/8" thread of diminishing pipe (step #7)

5. Pressure test: Blow into the flashback arrestor as hard as you can.

Air hardly gets through?
The arrestor is well stuffed.

Blowing is easy?
Stuff harder until almost all steel wool is inside.

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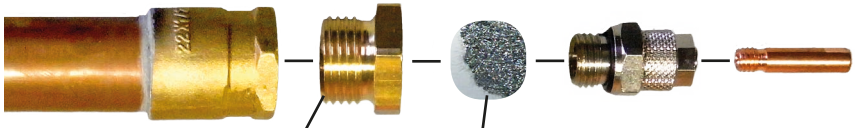
Flame Arrestor

6. Now assemble the other side. Seal all threads with teflon tape as before:



7. If you did not use steel wool, here the sintered metal is screwed into the 3/8“ inner thread of this diminishing pipe.

8. After screwing the diminishing pipe in, stuff the remaining steel wool tightly inside the remaining hollow space of the diminishing pipe. **Always fill this space**, even if you just used sintered metal: This is the area where all burn-backs start.

9. Done!

For maximum security we advise using 2 Flame Arrestors in serial.
Then the inner Flame Arrestor simply gets 2 hose connectors, and no nozzle.

The welding nozzle diameter has to match the gas pressure!
The less gas you produce, the smaller the hole diameter:

Welding Nozzle Hole Diameter:		
	0.6mm:	400-800ml HHO/minute
	0.8mm:	up to 4l HHO/minute
	1mm:	up to 10l HHO/minute

Handle getting hot? You have flashbacks inside. Turn everything off and replace burnt steel wool. Stuff harder next time. And fill up all empty spaces.

Tubes make cracking noises? Switch off immediately. Your arrestor probably got wet and clogged. You have back pressure, and what you hear is expansion cracks from material fatigue. Open the arrestor and let it dry.

Using steel wool:
Is is burned? Exchange all of it, and stuff harder.

Using sintered metal:
Does it fit air-tight? Seal the thread. Insert steel wool in the remaining chamber behind the nozzle!

DO NOT USE commercial welding flashback arrestors!

They are designed for welding purposes only and DO NOT work with oxyhydrogen. In case of flashbacks there becomes water, which would instantly clog the filter, resulting in sudden back pressure and the risk of explosions.

So, build your own flashback arrestor. And use a pressure-relief valve. Ok?

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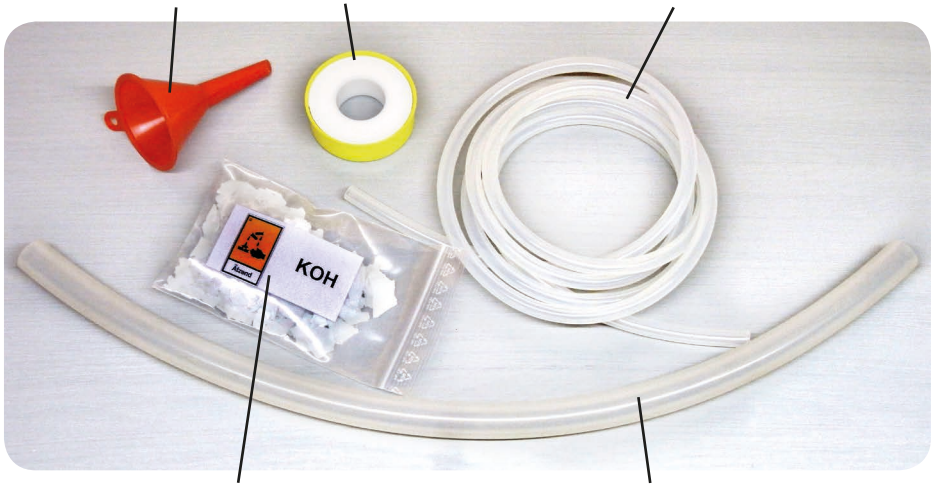
Tools And Equipment Required

We already mentioned some other materials, but did not previously show them. Here is a list of what you will additionally need for your DryCell-setup. It‘s the contents of our “Small DryCell Accessories Set”. You can order it in our German shop: **WasserStattSprit.info**
You find these parts at the hardware store also. The KOH you can also get from any local pharmacy.
More on p. 40



Hand tap for threads from the Hardware Store

You will also need some tools:

A set of threads (1x G¼” = 13.2mm) with hand tap
Thread diameter G¼” for the hoses:
12mm drill hole = ¼” (13.2mm) hose connector thread

Common tools:
Steel drills (for Small DryCell Variant: 5.5mm, 6mm, 6.5mm, 12mm, 15mm), drill stand, angle grinder, screw wrench, soldering iron for the flame arrestor, screw driver, nippers, scissors, ruler, measuring tape and other common tools.

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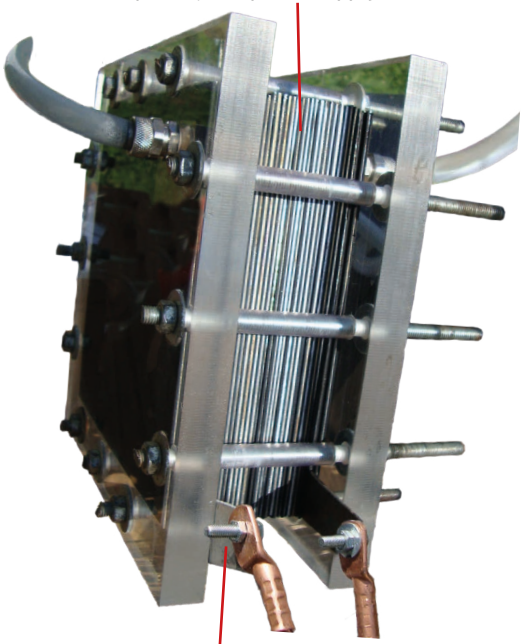
Note: In most cases, the Small DryCell will be sufficient. But if you absolutely need maximum output (e.g. large heating experiments, engines on pure oxyhydrogen), here is the parts list for the **Large DryCell Setup**:

Large DryCell:

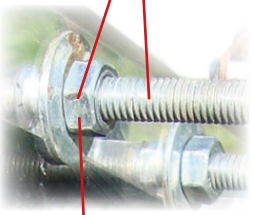
EPDM Pond Liner as Sealing
Thickness 1.15mm
Outer dimension 240x240mm
Inner dimension 220x220mm
Quantity 10 (@14V power, 8 chambers)
No. depends from power supply.

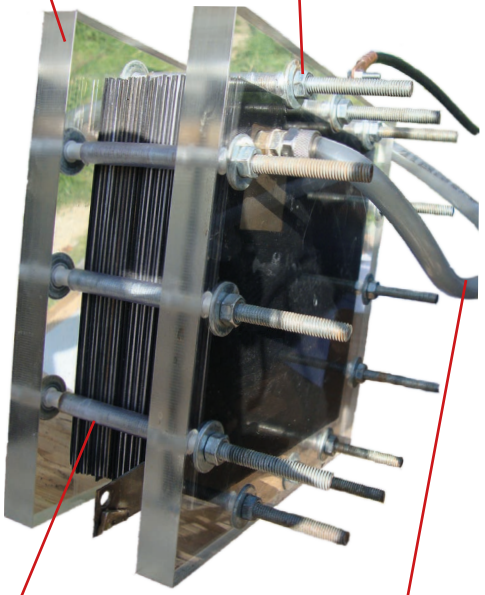


Stainless steel plates V4A, #1.4571
Thickness 0.5 to 0.7mm,
Dimension 240x240mm, cut with angle grinder
Quantity 9 (Assuming 14V power, 8 chambers).
No. depends on the power supply.

Thick Acrylic/PVC/PE-Plates
2 pieces of 300x300mm each
Thickness 15mm
Heat resistant up to 90°C

24 pcs **Screw Nuts M8**
24 pcs **Washers M8**
12 pcs **Threaded Rods M8**
Diameter 8mm, Length 120mm
(1.5m per DryCell)





Hose
12 small pcs., to
cover threaded rods
against short circuit.
Diameter 8/10mm
Heat resistant up to 90°C

Hose
Length 3m
Diameter 10/13mm
Heat resistant up to 90°C

The acrylic plates must be thick enough screw a thread in. Buy large plates & pipes and then cut them with jigsaw or angle grinder. Internet search: "Acrylic pipe", "acrylic plate".

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Large DIY DRYCELL KIT — Large DryCell Parts List

Large Bubbler and Large Water Storage:

7 pcs. of Hose Connectors G¼"
for Hose 13/10mm
(e.g. brands "Phobya.com", "Koolance", "Alphacool.com")

2x at DryCell
2x at bottom of Water Storage
1x at cover of Water Storage
2x at cover of Bubbler

Not taken into account here: Connections for flashback arrestor, pressure control valve and pressure gauge.

16 pcs. **Washers**
16 pcs. **Screw Nuts** M6

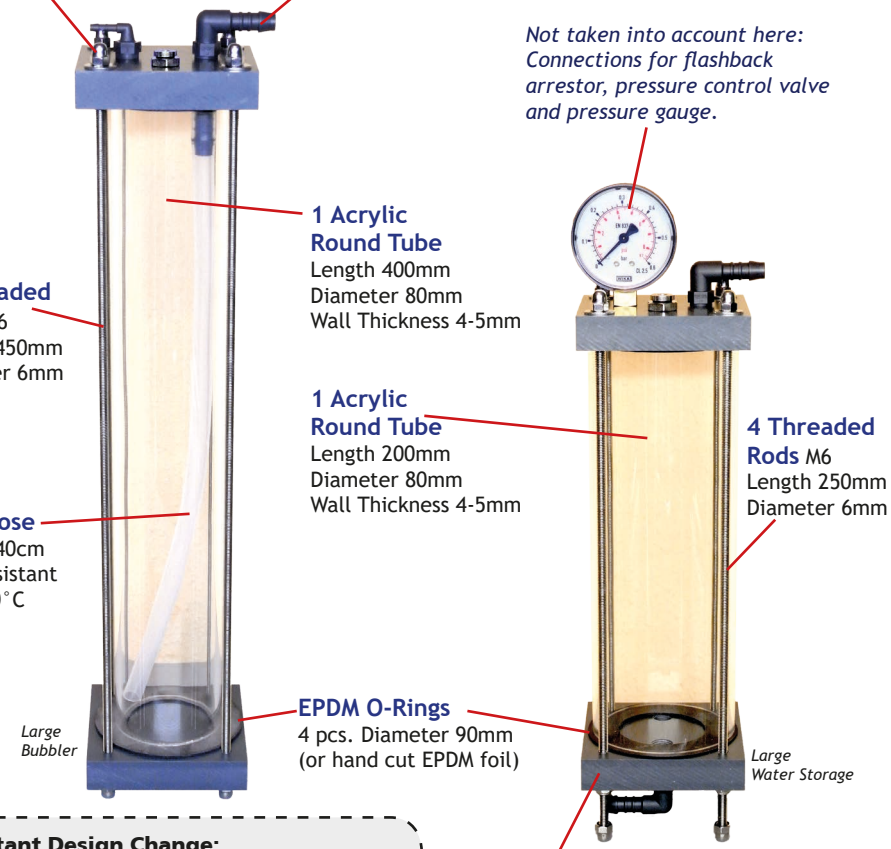
1 Acrylic Round Tube
Length 400mm
Diameter 80mm
Wall Thickness 4-5mm

4 Threaded Rods M6
Length 450mm
Diameter 6mm

1 Acrylic Round Tube
Length 200mm
Diameter 80mm
Wall Thickness 4-5mm

4 Threaded Rods M6
Length 250mm
Diameter 6mm

Inlet Hose
Length 40cm
Heat resistant
up to 90°C



EPDM O-Rings
4 pcs. Diameter 90mm
(or hand cut EPDM foil)

Important Design Change:
The Large Bubbler differs from the Small Bubbler! Here the inlet hose is on top and continues inside the Large Bubbler in a small hose (see image). So it will work independently from the position of the Large Water Storage.

Acrylic Cover Plates
Total size 20x20cm,
cut into 4 plates of 10x10cm each
Thickness 15mm

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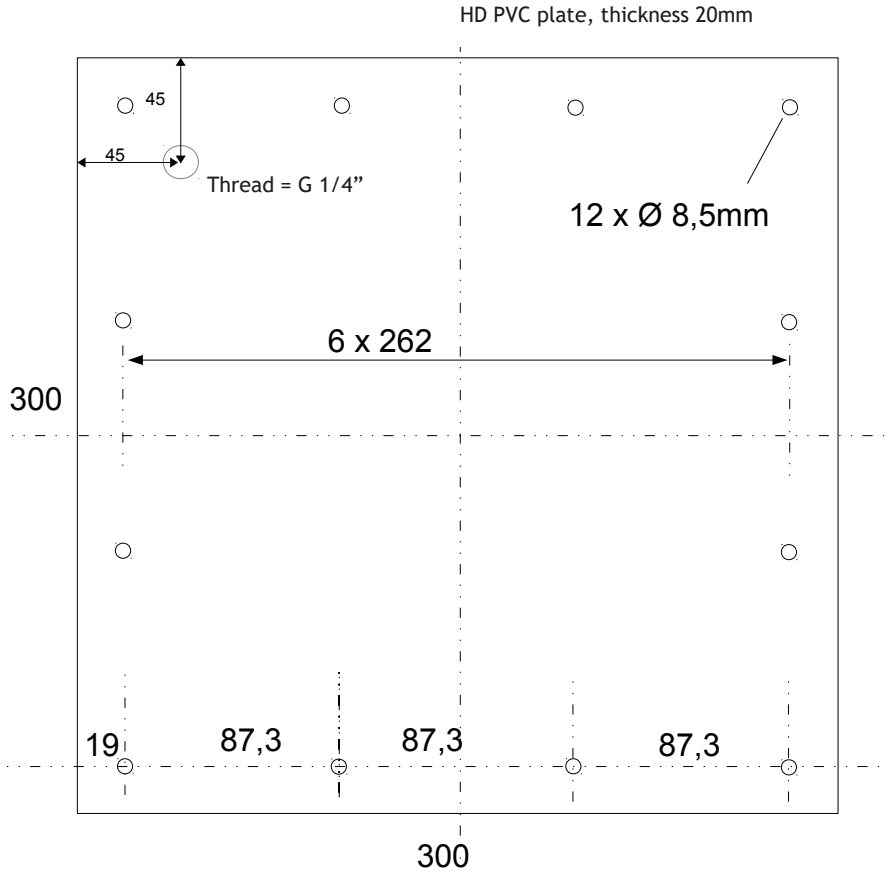
CAD image
Large DryCell Acrylic Glass Cover Plates

Quantity	2 pcs.
Material	Acrylic, PE or HD PVC
Size	300x300x15mm

Image shown on a scale of 1:3 when printed in A5 size
Measurements in mm



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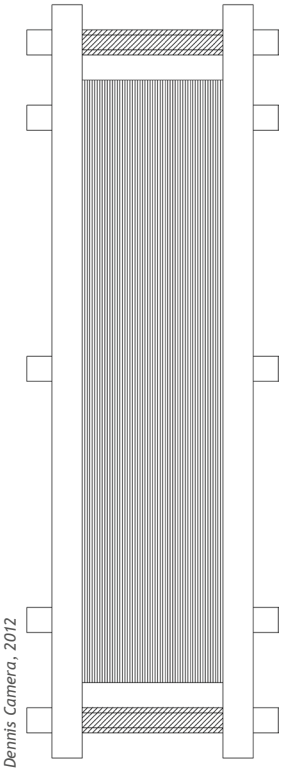
Large DIY DRYCELL KIT Large DryCell

CAD image
Large DryCell Steel Plates
without Power Supply Connection

Parts lists, links, CAD-files and images and tons of other information for download here:
FreeFromFuel.com/customer-area
PASSWORD: WeAreFree (Case Sensitive!)

Image shown on a scale of 1:3 when printed in A5 size
Measurements in mm



Side view with 26 plates
The number of steel plates and sealings depends on the type of power supply. See p.xx

Plate from 1.4571 stainless steel
Thickness: 1mm (minimum 0,75mm)

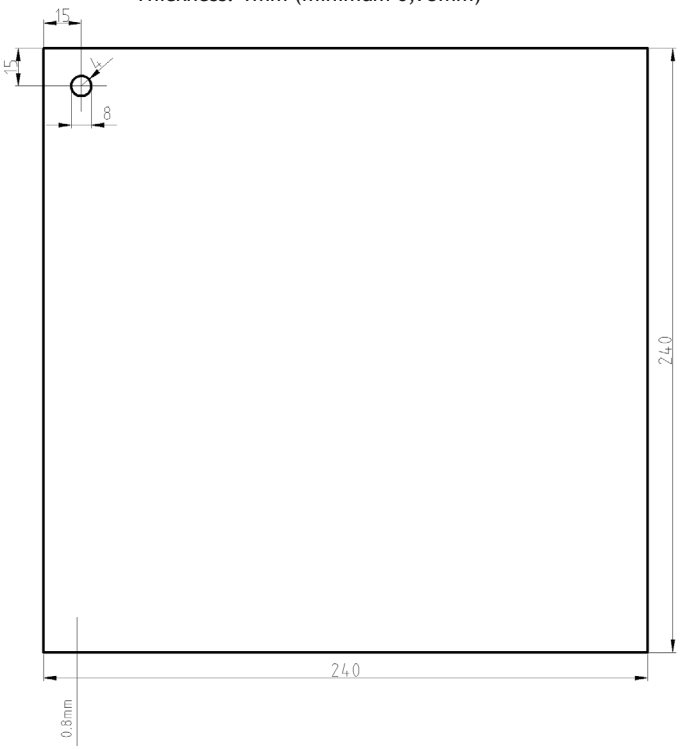


Image: Steel Plates without Power Supply Connection

CAD images courtesy Dennis Camera, 2012

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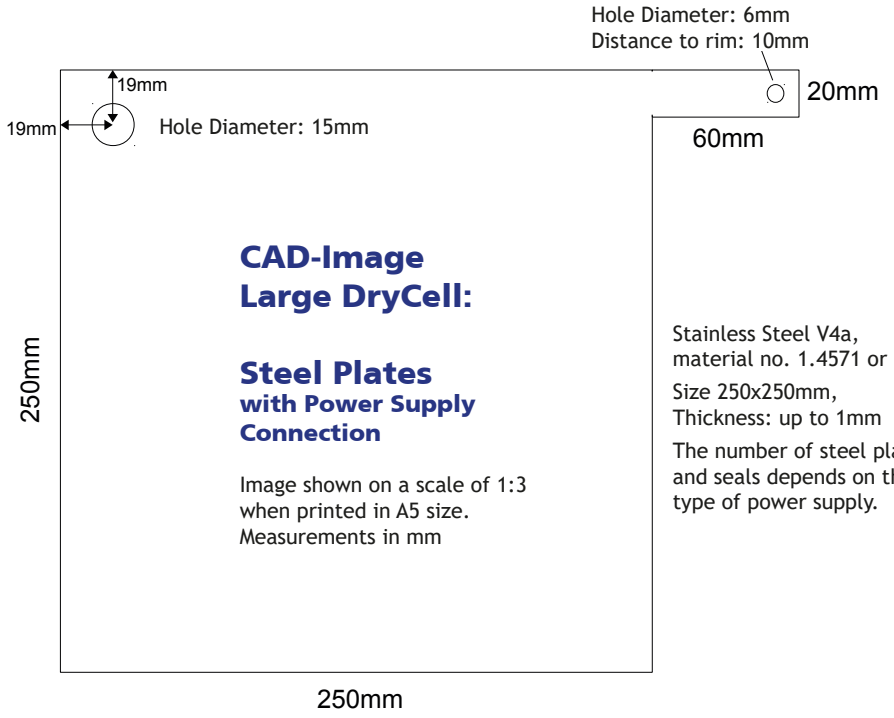


CAD-Image Large DryCell:

Steel Plates
with Power Supply Connection

Image shown on a scale of 1:3
when printed in A5 size.
Measurements in mm

Stainless Steel V4a,
material no. 1.4571 or better.

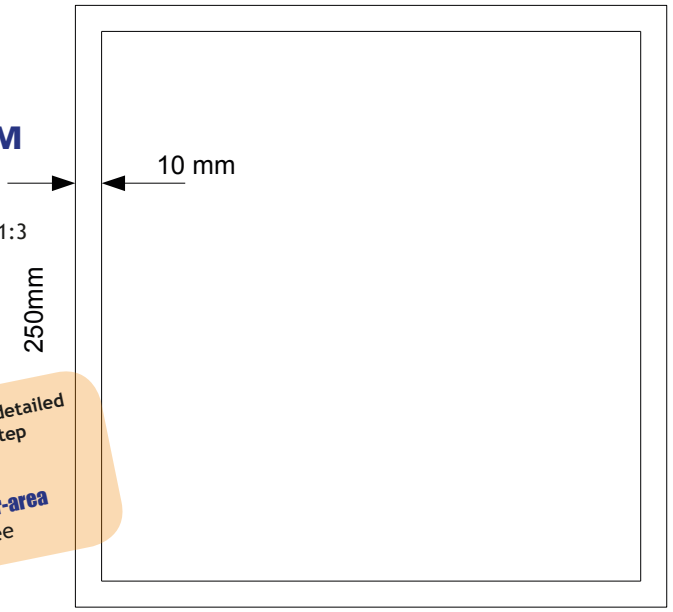
Size 250x250mm,
Thickness: up to 1mm

The number of steel plates and seals depends on the type of power supply.

CAD image Large DryCell:

Seals from EPDM Pond Liner

Image shown on a scale of 1:3
Measurements in mm



Free download of the much more detailed "Large DryCell Kit" step-by-step instruction manual from:

FreeFromFuel.com/customer-area
PASSWORD: WeAreFree

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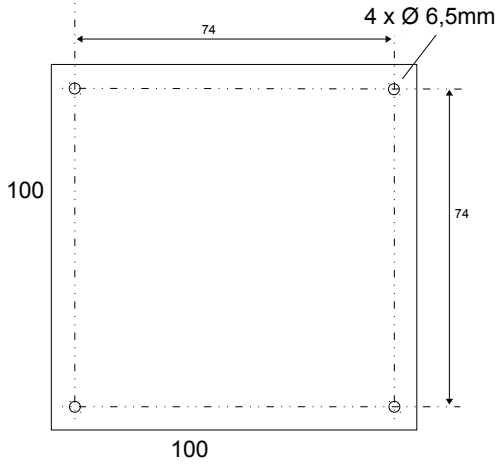
The assembling of the "Large DryCell Kit" is similar to the "Small DryCell Kit" on p. 9-23. Adjust steps accordingly. You find a detailed step-by-step instruction for the Large DryCell Kit in the customer area for free download.

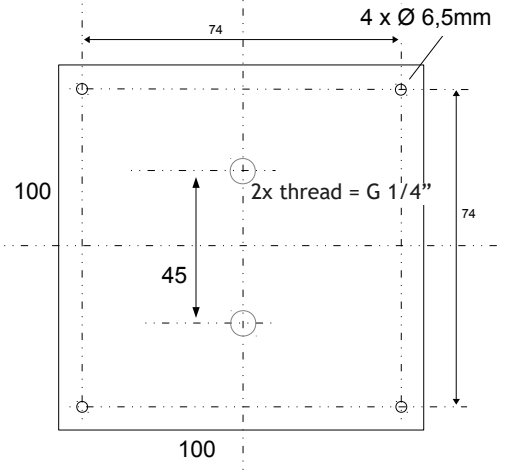
Bottom Plate for Large Bubbler:

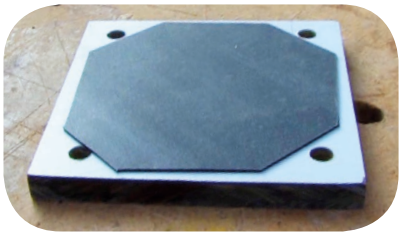
1 Plate from HD-PVC, 10x10x2cm
Image shown on a scale of 1:2
when printed in A5 size
Measurements in mm



Bottom Plate for Large Storage:

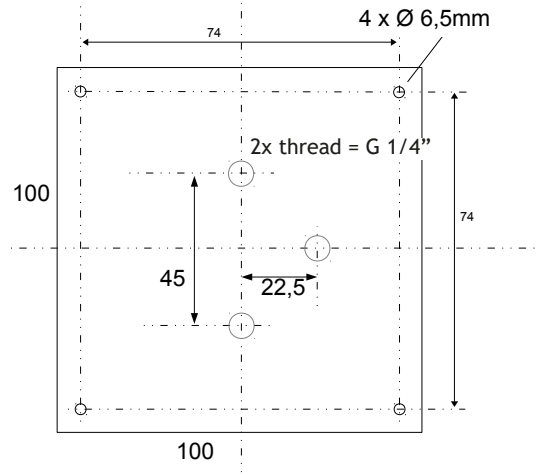
1 Plate from HD-PVC, 10x10x2cm
Image shown on a scale of 1:2
when printed in A5 size
Measurements in mm





Upper Plate for Large Bubbler and Large Water Storage Container:

2 plates from HD-PVC, 10x10x2cm
Image shown on a scale of 1:2
when printed in A5 size
Measurements in mm



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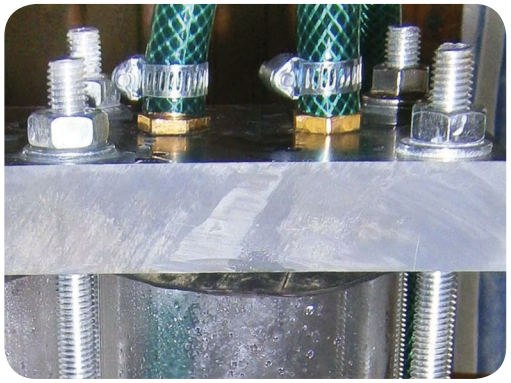
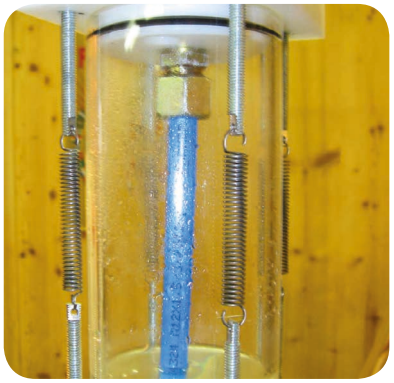
Alternative Ways To Build

As there are no standards in nature, you are free to try. All we can show you what worked best with our humble knowledge. Remember, we are all just hobbyists.



Garden Hoses (customer photo)

Alexander G. used an ordinary garden hose from the local hardware store. But remember: Short and narrow hoses = higher efficiency. And the less gas you have in the setup, the safer in case of undesired ignition. More on p. 41.



Springs (customer photo)

Anton S. inserted spiral springs into the threaded rods. They will easily withstand the normal working pressure (200mbar), but open at a sudden over pressure or backfire. A simple and brilliant idea! :-)

Round plates give (a bit) more efficiency

Pros:

Higher efficiency:

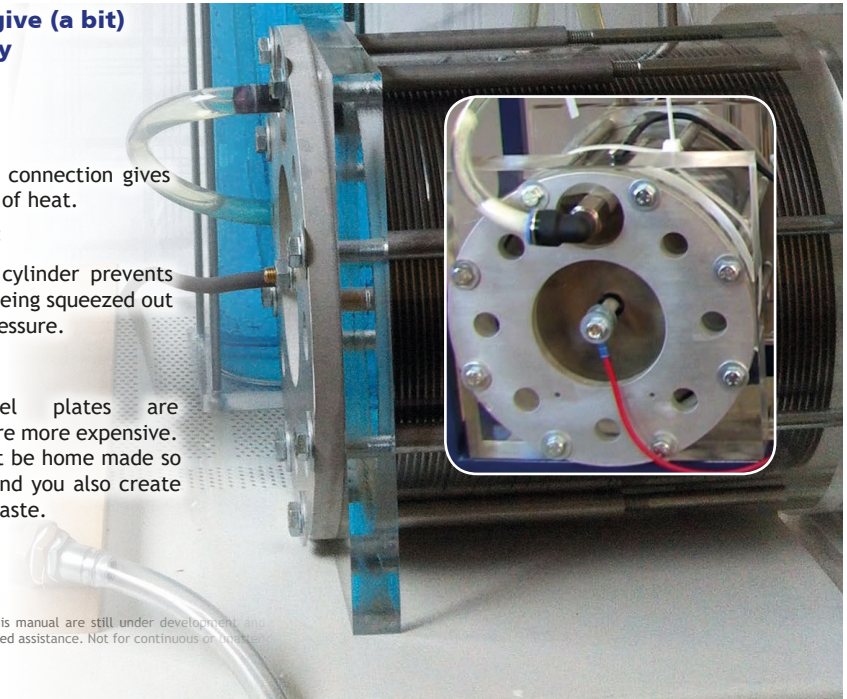
The centric power connection gives better distribution of heat.

Low maintenance:

The outer acrylic cylinder prevents the sealings from being squeezed out due to heat and pressure.

Contras:

Machine-cut steel plates are necessary, which are more expensive. Such DryCells can't be home made so easily any more, and you also create more production waste.



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Power Supply

The DryCell rips water molecules via electricity. So it needs an electrical power source for operation. But the electricity is not the entire energy source — it is just the stimulus for fission! The energy from the oxyhydrogen gas originates from the water. See p. 59 and p. 64.

Best: Stand-alone photovoltaics

Power your DryCell from existing solar batteries. The DryCell is perfectly designed for such low voltages. Always stay below 60V to stay safe.

Mobile Use: Batteries

Recommended: Ni-Fe Batteries from 1900
They last forever if kept below 45°C. Important: Do not apply modern chemicals to the caustic potash solution! Without them the batteries will discharge faster, but they last longer and even survive deep discharge! They are still functioning in electric cars from 1900.

Recommended: PWM-Controller
Add a "pulse width modulation" controller in serial connection between DryCell and solar battery. It limits the Amperes, otherwise the battery may empty too fast. Web search for "PWM 40A" (20-30 USD)

Recommended: Discharge Protection
This cheap little thing increases battery life. It switches off all power as soon as the battery voltage gets critically low. Wonderful.

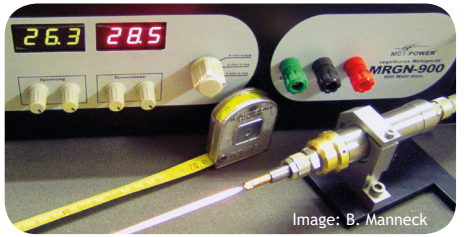

Image: B. Manneck

The switching power supply we show on film was popular among hobbyists (about 250USD), but not reliable. It was discontinued. Successor: "McPower LBN-1990". Or better use a standalone photovoltaic system.

Power Grid Use: Switching Power Supply

All power supplies are inefficient. Basically you can use any low impedance transformer. We recommend at least a **switching power supply** (see image above), it automatically adjusts the voltage. Or better use a toroidal transformer plus control logic.

You can even use a **12V computer supply** or any other fixed voltage power supply. The only drawback is it won't let you adjust the Ampere, which controls the amount of gas output. You can adjust the gas output alternatively by adding more electrolyte (up to 30% of KOH) to the water. It makes more foam then, but who cares, it works :-)

DO NOT USE Battery Chargers!
It basically works, but you can't limit the Amperes. As soon as your DryCell gets hot, the charger will give it as many amperes as it can until you have an electric kettle.

DO NOT USE Electro-Welding Inverters!
Highly inefficient, imprecise adjustment, and it gives you totally distorted multimeter values from high frequency pulses. There is no efficiency. For experimental tests only.

NEVER connect DryCell directly to mains supply! Mortal danger!

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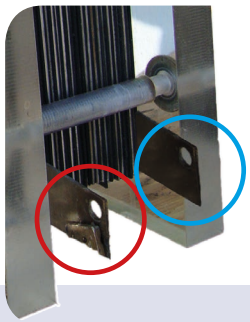
Connecting the DryCell:

The very first plate (with power connector) is connected via feeder clamp to the **POSITIVE POLE** of the power supply, the last plate (with the other power connector) to the **NEGATIVE POLE**. It doesn't matter which plate is (+) or (-). If you have more than 2 power connector plates, continue on p. 39. BTW: Lots of contacts (+-+-+-) didn't give us better results.



High currents need good contact! Drill a hole into the plate connectors (see image), and if you don't have a feeder clamp or cable shoe, fix the wire between two washers before tightening it with a screw on each side.

How many plates do I need?

This depends on your power source. The more voltage it has, the more chambers in your DryCell:

The DryCell consumes: **2.4V per chamber as long as DryCell is cold**
1.76V per chamber at ideal operating temperature (45-60°C)

Voltage Model Calculation for a 12-15V Car Battery:

7 plates = 6 chambers = 6x 2.4V / chamber = **14.4V** (as long as DryCell is cold)
9 plates = 8 chambers = 8x 1.76V / chamber = **14.08V** (at working temp. of 45-60°C)

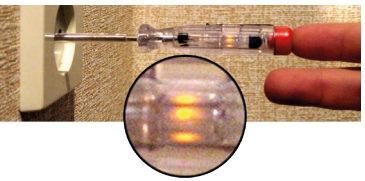
Typical Ampere Draw:

3-5A most experiments using little gas: sand heater, welding, lime light, HHO-additive,...
5-15A as long as DryCell is cold at startup, or for power use with large flame (up to 30A)
30A Ampere Limit. Higher Ampere will just result in boiling water.

CAUTION! After switching off, your DryCell is still electrically charged like a battery. Wait for some minutes, then short cut its poles several times before touching!

HINT: Correct polarity

Most power supplies work more efficiently when connected to the power grid correctly. European "Schuko" power outlets should have their line-conductor (L) on the left side and the neutral wire (N) on the right side. The power cable of an angle connector plug should then point downward.



Test no. 1: Phasing out the power outlets

Plug a phasing tester (from hardware store) into one of the power outlet holes. Softly touch the back end of the phasing tester (as shown on the left). The glow lamp will just light up when you find the line-conductor hole. Mark this hole with a self-adhesive label or waterproof marker.

Test no. 2: Phasing out the power supply

To make potential differences measurable you have to cover the electrical grounding at the plug of your switching power supply. Do NOT touch the housing after you do this! Now plug in your power supply, but with no other cables attached. Switch on the power supply. Connect a multimeter ("AC" position) to the power grid neutral and an uncoated part of your power supply. Read the measures. Turn around the mains plug and read again. The lower value is the right polarity of your power outlet. Mark this with a label. Remove all other markers or labels, especially the cover of the electrical grounding at the plug of your power supply.

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HINT: Maintain operating temperature

Your DryCell works best at 45-60°C. Below this it needs higher voltage per chamber (or it just won't start), at above 60°C it starts producing water vapour.

HINT: Changing polarity prevents rust

An occasional change of polarity prevents single sided plate corrosion. It even peels it off.

HINT: Pulsed DC input saves energy

Since the DryCell stores electricity like a capacitor (chemically spoken, it is a charged battery), the DryCell is still charged and makes some gas, even when we cut off the power. This means, we can save energy by feeding pulsed DC without much output losses, e.g. 2 sec. on/off, or at a ratio of 1:2, 2:3, e, Pi, silver ratio, golden ratio, Fibonacci spiral,...

HINT: Running-in for higher output

Your DryCell needs running-in. Start with short operation time, low amperes and lots of breaks. Slowly increase after a few days. It will make more gas then.

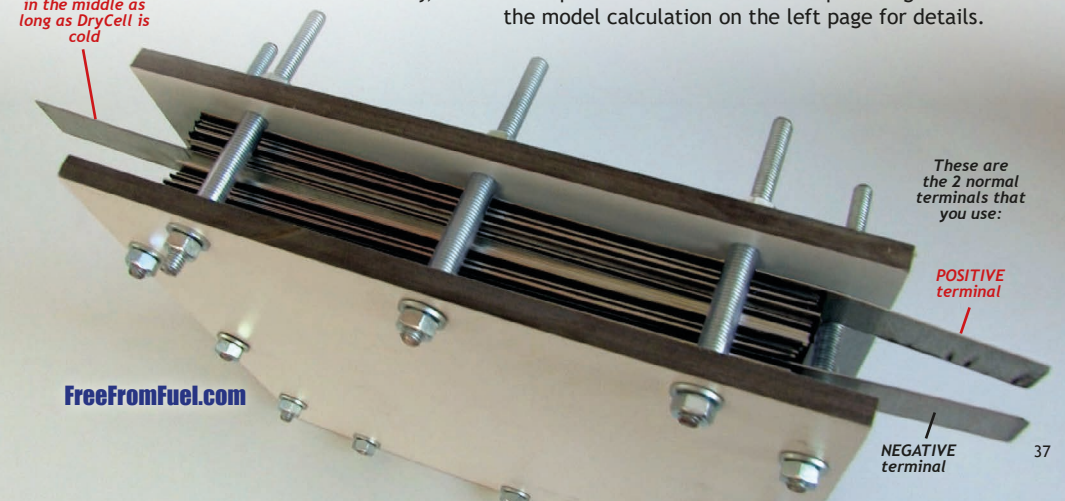
HINT: Other ways of increasing efficiency

- Round plates give better heat distribution. See image on p. 36
- Short & narrow hoses. You will have more high-energy atomic oxyhydrogen. See p. 41
- Battery use only: Add more electrolyte (up to 30%) to get more gas (and more foam).
- Mix a small percentage of alcohol into the bubbler. See p. 51
- Revitalize water. You can feed higher amperes then. See p. 40. Even emotions and quality of location can affect the output. It works for us. You don't have to believe this.

HINT: An additional positive terminal speeds up the start

A cold DryCell needs more voltage (2.4V per chamber) than a hot one (1.7V). So you either have to power up the voltage at the start, or you start with fewer plates. All you need is a second positive terminal plate somewhere inside. See image below.

As an example: For 14.4V (= nominal 12V car battery) you start with 7 plates only, let it heat up and then reconnect all 9 plates again. See the model calculation on the left page for details.


Use an additional POSITIVE terminal in the middle as long as DryCell is cold
These are the 2 normal terminals that you use:
POSITIVE terminal
NEGATIVE terminal
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The Electrolyte

It is an addition to the distilled water to make it more conductive. We use **KOH (caustic potash, potassium hydrate)** as pellets from the drugstore or internet (web search for "KOH 1kg"). KOH is a nontoxic food additive (E525).

KOH is catalytic and almost never wears out. So you add KOH just once before the very first initial start of the DryCell.

For each millimetre of plate distance you mix **0.5% to 3% KOH** (percentage by weight) with distilled water. Stir well and then fill it directly into the DryCell with a cone through one of its hoses.

For 1 litre of distilled water you add about 30g KOH = 3%

For the **Small 12V DryCell** you mix 3g of KOH pellets with 110ml of distilled water. Stir well.

The **Large DryCell** needs 48ml of water and 1.5g of KOH per chamber. Stir well.

You will have to do this just once. Next time refill with distilled water only. More on the next page.

The DryCell uses mild soap sud. This is how the KOH pellets look like before dissolving in distilled water.

Alternatives to KOH:

Your DryCell will stay as clean as possible with KOH as an electrolyte. It is also much heavier than water and remains in your DryCell for a very long time. Other electrolytes have major disadvantages. They can use up and can contaminate the DryCell. You can still use the following alternatives:

- NaOH (sodium hydrade, caustic soda)
- K_2CO_3 (potassium carbonate, potash, pearl ash)
- citric acid
- baking soda

Organic washing sud:

For utmost self sufficiency you can use white wood ash from the bonfire or wood stove. Mix only the white ash from hard wood into the water. Let the water mixture boil, then leave it for 1-2 days. Filter the water with a fine cloth to remove particles. Only use ashes from hard wood. You can't use the ash of soft wood, coal briquettes or wood pellets.

You can also use soapnuts or fine-cut horse chestnuts instead of hard wood ash. The procedure is the same as with wood ash. But as mentioned, they will contaminate the DryCell.

Caution! Some electrolytes are dangerous!

Salt (NaCl) makes chlorine gas! **Urea** makes ammonia gas (NH_3), which in reaction with oxygen and hydrogen becomes absolutely hazardous hydrazine (N_2H_4). Don't use them. Use KOH instead.

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Distilled Water

Water molecules are not static. They rebuild themselves millions of times per second. When electrolysis forcibly disrupts these molecular compounds we get oxyhydrogen (HHO). 1 litre of water = approx. 1860 litres of gas (volume depending on temperature).

The "fuel"

We recommend **distilled water**, just as it drips from the lid of a cooking pot. Ordinary tap water contains too many impurities reducing efficiency and output and clogging your DryCell. If your DryCell gets too dirty, disassamble and clean it (use gloves and rinse with water only), then refill it with KOH + distilled water.

Measuring the fluid level

You can correctly **measure the fluid level** only when the DryCell is switched off. The DryCell's fluid level should be just below the connection hoses (see image). A higher level will result in short circuiting.

If the water level drops, refill with distilled water only. The KOH remains and does not wear out.

The DryCell uses about 0.5ml of water for every liter of gas it produces. The water is drawn from the bubbler.

Before next use, refill the Bubbler with distilled water until its water level is at about ¾. Take care of the water level in the Bubbler! Too much water in the Bubbler can clog the Arrestor.

HINT: Vitalize Water

If you use vitalized water (e.g. in "Schauberger" type cones or spiral pipes, or by sending your concentrated positive emotions), your DryCell will tolerate up to twice the ampere and will make more gas accordingly. See page 37.

HINT: Short and Narrow Hoses

Short & narrow hoses give higher efficiency. We assume that the DryCell produces a mixture of moleculare and monoatomic gases. Monoatomic gas has more energy but recombines to molecules quickly, resulting in less usable energy. So keep all volumes inside the setup as small as possible and only produce on demand. Any trail of monoatomic gas is valuable and increases efficiency.

HINT: Alcohol into the Bubbler

Adding a low percentage of **alcohol** to the water in the bubbler improves the characteristics of the gas without using up the alcohol at all. See p. 53.

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HHO, Oxyhydrogen, Brown's Gas or...?

Since "science" ignores us, everyone can use their own terms. They basically all mean the same. The chemical term is HHO. The electrolysis disrupts the molecular compounds of water. One water molecule (H_2O) is ripped into 2 ions of hydrogen (H) and 1 ion of oxygen (O). What we get is oxyhydrogen gas, a 2:1 mixture of hydrogen and oxygen.

Chemical Reaction Equation: $2\ H_2O \longleftrightarrow 2\ H_2 + O_2$

In other words: 1 litre of water becomes approx. 1860 litres of gas ("hydrolysis", reaction goes from left to right). When we burn it ("oxidation", reaction goes back from right to left), it becomes water again.

We assume that there might be several variants of water and gases (6 isotopes of oxygen x 3 isotopes of hydrogen). Fresh gas from our DryCells has very high energy, it may contain traces of monoatomic (?) hydrogen for a *very* short time. These traces recombine back to hydrogen molecules within seconds. We do not know much about this fascinating anomaly yet. Science still treats nature as if it was an old school book or a dead item in a science museum.

Fascinating Gas

The oxyhydrogen gas is not as dangerous as it is said to be. Hydrogen has the smallest and lightest atoms of all. It instantly ascends and dissolves through every material, it even goes through walls and roofs right into the atmosphere. This makes storage totally useless, but it makes indoor experiments possible to a limited extent. So whatever you do, the gas won't stay long ;-) That's why we use it the moment we get it. On demand. BTW, did you know that 1 litre of oxyhydrogen gas at room temperature weighs only 0.55g ($^1/_{50}$ oz)?

But then how to store it? > We never store it! We make it on demand.

1. Oxyhydrogen won't stay long anywhere. So why store it?
2. Fresh oxyhydrogen from the DryCell contains high-energy atomic percentage, which recombines after a few seconds. So be quick. Produce on demand.
3. Oxyhydrogen has so much energy and loves to react. Even at low pressures. Don't worry then. This sounds like a popping balloon, and all we have is some water all around us.
4. Storing water is much more eco-friendly than gas or oil :-)

Heating Value:

1m³ of hydrogen stores 3.55kWh of energy. A decent DryCell setup needs about 2.6kWh of energy to make 1m³ gas at 15°C gas temperature, which is about 145W/liter. This depends on individual make, materials and many other factors. Skilled hobbyists can absolutely undercut these values.

1kg crude oil	= approx.	35 MegaJoule
1kg oxygen	= approx.	120 MegaJoule
1kg oxyhydrogen	= approx.	>145 MegaJoule

Peter
(not at original scale)

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First Start

Ok, now you have assembled your DryCell setup, and want to start experimenting.

1. Read Safety Instructions

Read our safety instructions on the last page of this manual!

We are serious, this is a technical experiment with chemicals, electrical energy and fire. The experiments are still in development and may contain errors. Replicate at your own risk.

We recommend asking an authorized specialist for help, or team up with friends and colleagues.

If you need help, see pages 62-63.

2. Check your setup

Does your Small DryCell Setup look like this? See p. 6 for a larger image.

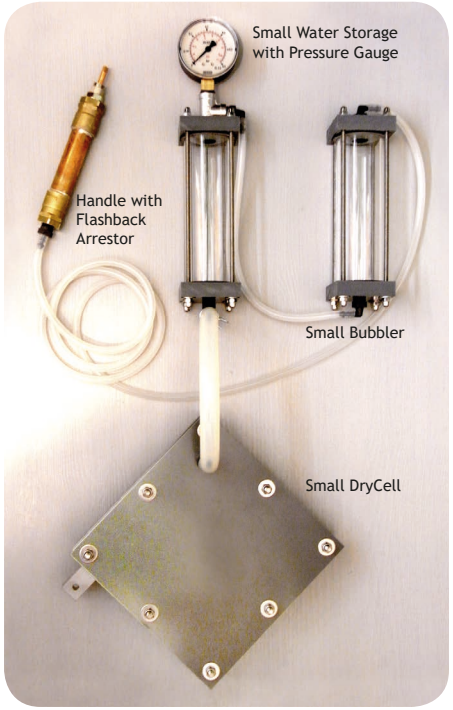
Carefully check with your DryCell setup. Are all elements in the position as shown in the picture? They have to be exactly in the same position as shown, at least in relation to each other.

The DryCell is always operated standing on its edge with the hose outlets at the highest position. This allows for a minimum of unused air space where oxyhydrogen can dam up, while it maximizes the usable plate surface for electrolysis.

Water Storage and Bubbler must be attached next to each other at the same level, to ensure correct function.

The DryCell sits directly below the water storage container (the one with the pressure gauge). Build yourself a stand to keep everything in place.

You can order DryCell stands and even ready-to-use DryCell-Kits from our German store: **WasserStattSprit.info**



Small DryCell Setup. See p. 6 for a larger image

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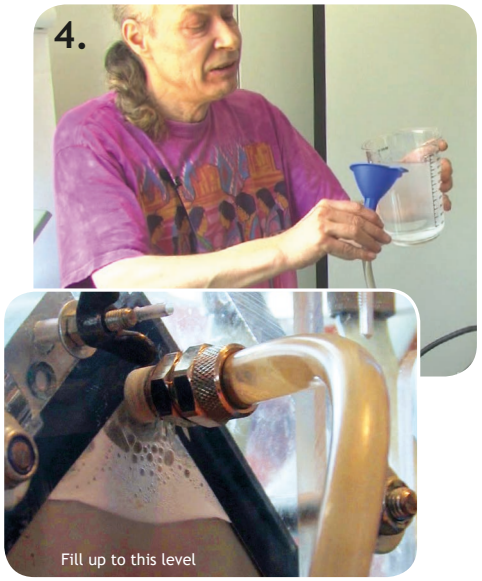
3. Mix KOH with distilled water

You will have to do this just once: For the **Small 12V DryCell** you mix 3g of KOH pellets with 110ml of distilled water. Stir well.

The **Large DryCell** needs 48ml of water and 1.5g of KOH per chamber. Stir well.

More on p. 38



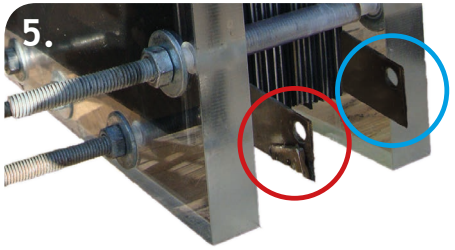
4. Fill mixture into the DryCell

Use a cone to feed the water from one of the hoses.

Open the vent screw on top of the Water Reservoire to let the air out, while you fill the DryCell with water.

The water level must stay below the DryCell hose outputs (see image).

Next time you refill the DryCell with distilled water only, because the KOH almost never wears out. More on p. 38



5. Attach power supply

Your DryCell usually has 2 power connectors: One on each outmost plate. It does not matter which one is (+) and (-). Use big feeder clamps for good contact.

The number of plates in your DryCell determines the voltage you need from the power supply. And the temperature of the DryCell itself makes a difference, too. We explain this on p. 35-37.

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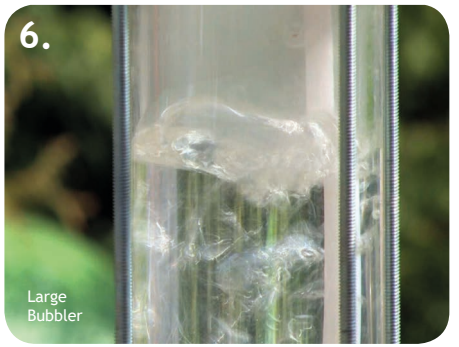
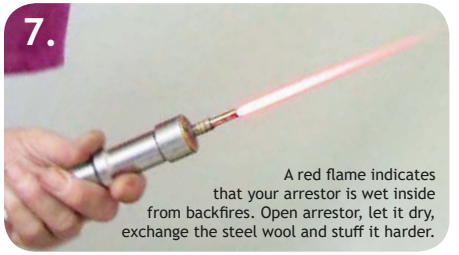


6. Apply power to DryCell

On pp. 35-37 we explain how many Volt and Ampere you need. Double check that. Now.

Adjust your power source accordingly and switch it on. You should see bubbles arising in the containers (see image on the left), and a hissing sound at the nozzle. This is the oxyhydrogen from the water.

Start with low Ampere, short operation time, and lots of breaks. The DryCell needs a few days of “running-in”. More on p. 37.


7.
A red flame indicates
that your arrestor is wet inside
from backfires. Open arrestor, let it dry,
exchange the steel wool and stuff it harder.

7. Ignite the gas

It will instantly burn with a very sharp flame. Be careful, it gets very hot. Do not touch the flame. It melts everything within seconds.

Flame blue-transparent = everything ok
Flame yellow-red = Arrestor wet! See p. 64

8. Start the experiments

Have fun! And please stay safe. This is real energy you are working with.

9. Finished?

Fold the hose next to the handle first (to stop the gas output), then switch off the power supply.

You will hear a chirping sound from the nozzle, while the flame dies out. This is the normal behaviour.

Caution: The DryCell acts like a battery and is still electrically charged for some minutes, even when you disconnect the wires.

Refill: After switching off, the DryCell will “refuel” itself. It will draw the water from the Bubbler. Refill the Bubbler with distilled water up to ¾ of its height.

10. After Work

Store equipment properly.

The DryCell is still filled with water. Make sure it will not leak when you store it.

Make sure your chemicals are all labeled properly, and stored safely. Store all technical and electrical equipment safe and adequately.

Go online and check for customer updates at

FreeFromFuel.com/customer-area
Password: **WeAreFree**

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Early Mistakes: Heat Exchangers and Catalytic Combustion

Many of you wish to modify the existing oil or gas heater. We strongly advise against this! We show you what went wrong, just because so many of you keep asking.

Our **first heat exchanger** (see image) was a steel tube wrapped with 2 small copper pipes. Inside the tube was the oxyhydrogen flame. The water went through the small copper pipes. But this first model hardly worked:

1. The flame had no solid matter to react with (see p. 46). So we did not exceed 140°C.

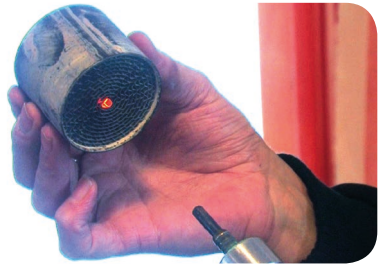
2. Between steel tube and copper pipes there was not enough area of contact for the heat to distribute.

First heat exchanger from the film. Faulty design, no function.

The **next heat exchangers** were double-walled steel tubes. Inside was a piece of fireclay with which the flame could react. The water was passed through the double-walled tube to be heated. But within a few hours the flame had melted the fireclay, and in the end even the steel pipe melted! Whatever we tried, even pure tungsten melted within a few days. Its boiling point is an incredible 5930°C.

One of the self destructing heat exchangers. They all melted themselves.

So we started experimenting with **catalytic converters** that come from motorbikes. There it burns all the unused fuel residues. Fuel residues? Yes, car engines are anything but efficient. They waste energy. But here it's perfect for us. No flame, just pure heat. Much safer than heating with flames. We started with catalytic converters from the auto parts shop and found out they are **toxic and inefficient** if used with with oxyhydrogen! It's just the wrong type of gas. You'd have to constantly add fresh air to avoid flashbacks, but that creates toxic nitrogen oxides (NOx)! And the internal coating often contains highly toxic substances.


Poisonous catalytic converter from a motorbike, flamelessly heated from pure oxyhydrogen

DO NOT MODIFY an oil or gas heater for use with oxyhydrogen:

- The oxyhydrogen flame melts literally every material! Fireclay melts within hours, tungsten melts within days. The burning chamber itself melts, even with constant cooling.
- The DryCell is still an experiment and has to be supervised constantly. You can't just leave it alone as you would do with a conventional heater. Don't even just dare to think about it.
- Heat exchangers are inefficient for use with oxyhydrogen flames.

We recommend:
1. The "Lime Light", see p. 47
2. Build yourself a self-heating house below the earth surface, p. 68
3. Use a conventional heat pump, solar cooker, solar heater, photovoltaics, and in winter use an additional earth kiln. See p. 71

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Too cumbersome: The Flameless Sand Heater

Next try: Our self made flameless catalytic combustion heater should substitute for conventional catalytic converters, which were too expensive and not suitable for our gas. It turned out to be very cumbersome. We had to use poisonous chemicals, but still it was not efficient enough.

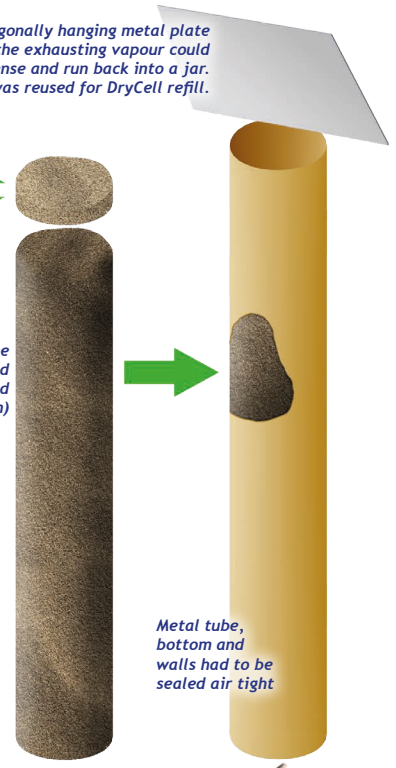
Nevertheless, here is how it basically worked:

Pure oxyhydrogen was let into a metal tube entirely filled with sand. On top there was 1cm of platinum coated sand. The platinum converted the gas into water vapour and lots of heat. The sand below worked as a filter against flashbacks and stored the heat.

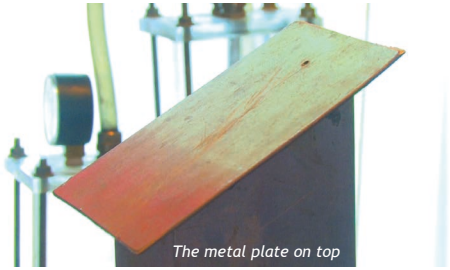
A handful of very fine sand (0,2-0,6mm) was mixed with platinum foil. This mixture was used for the topmost sand layer inside the steel tube.

More efficient: We coated fine sand directly with a layer of platinum. Therefore we let 2 platinum leaves dissolve in 60°C hot "aqua regia" (nitro-hydrochloric acid). With this chloroplatinic acid (Cl6Pt) we then coated a handful of fine sand several times, until it was well coated. We dried the sand with a Bunsen burner to anneal it, otherwise it would not react to HHO. This was really cumbersome and dangerous.

Diagonally hanging metal plate where the exhausting vapour could condense and run back into a jar. This water was reused for DryCell refill.



The lower part of the steel tube was filled with very fine sand (0,2-0,6mm)


The metal plate on top

Metal tube, bottom and walls had to be sealed air tight

View into the Sand Heater

Oxyhydrogen hose from the DryCell leading into steel tube (inlet had to be sealed airtight)

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A popular experiment: The "Nail In The Stone". The oxyhydrogen flame easily fuses a steel nail with the stone underneath completely.

Oxyhydrogen Soldering

The temperature of the oxyhydrogen flame in air is only 140°C, this is about $^{1}/_{10}$ of the flame of a candle.

The oxyhydrogen flame is slender and narrow, totally different from the usual welding flames from butane, propane or acetylene. The reason is, here we have an **implosion** of oxyhydrogen gas back into water. From approx. 1860 litres of gas we get one litre of pure water and a lot of heat.

We can use this water anomaly (one of many!) perfectly, because **the flame instantly increases in temperature when it touches anything solid**. Why? You know, when oxyhydrogen burns it becomes heat and vapour. The newly arising water (from the vapour) touches the solid material, gets caught, gets fissioned again from the flame's heat, gets again burned up, gets caught, fissioned again, and so on.

This cycle can repeat itself several times. You can even watch it. Look closely into the flame, you will see a colour field rotating *inside the flame*. And of course you will notice that *your welding work piece gets wet* as your flame touches it. This is the water fallout that is part of this circle. This happens without any additional energy supply. All the energy is already stored in the water.

Now you know why we can easily melt steel, fireclay, granite and others within seconds. Tungsten will even sublimate. Its boiling point is about 5930°C.

Good for soldering:

If you have bought one of our preassembled, ready-to-use DryCells, you already have a wonderful example for oxyhydrogen soldering. We do all the soldering on the arrestor handle with the DryCell itself.

Not (yet) usable for welding:

The enormous energy changes the material structure when welding. Carrier material can boil away. The oxygen will dissolve first, making welding seams porous. Welding seams can easily break on thin surfaces.

We are convinced that this anomaly will be of great use in the future, but at the moment we still have to look for an application.

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Simple and efficient: The Lime Light

Perhaps the most efficient experimental heating method for yurts, mobile homes and tiny houses:

The limelight was the common stage light 200 years ago. It is simple and efficient.

How it works:

When you heat up lime with an oxyhydrogen flame, it produces incredible heat and light, up to 2,572°C (4,662°F). Interestingly, the lime hardly burns up or even gets spongy.

We just found this accidentally after chunks of burnt lime (calcium hydroxide) from the hardware store got wet from the moisture in winter. It is easy and efficient, but we officially do not recommend this for everyday heating. You'd need constant flame supervision and welding goggles.

Efficiency:

While we were burning lime for 400 seconds per hour at 300W, we could keep a 20m² workshop room warm in winter, while it was freezing outside.

400 seconds per hour at 300W totals just 45Wh!?

That is incredibly efficient! 45Wh can be easily powered by a small PV system which feeds into the Small DryCell. Together with a small wood stove it can make a tiny home warm and cosy.

All of this was powered from and measured with an inspected and calibrated PV-system. But who knows. We are just hobbyists.

CAUTION: Use welding goggles! Don't look into the flame!
Use flame under constant supervision only!

Simple And Efficient: Radioactivity Removal

Did you know...?

1. *Nuclear power plants are built exclusively to produce radioisotopes for the army. The generation of electricity via old-fashioned gas turbines (!) is only an alibi for the public. In reality, the electricity is as minor a side-effect as that produced by the car's alternator.*
2. *Nuclear power plants are usually privately owned. Yet governments around the world pay for all the operating costs! Otherwise they would not be profitable. But guess what, all the profits go to the owners! Imagine that with your car or your house.*
3. *Not a single nuclear power plant in the world ever had insurance coverage. No insurance company would insure them. So if an owner (theoretically) decides to blow it up instead of repairing it, the state willingly pays for damages, demolition costs and all consequential damages.*

Totally crazy: In a nuclear power plant, **you can turn gold into mercury** through radiation! The process is called transmutation. It is the transformation of one chemical element into another through radiation. Actually, everything is going completely wrong here.

We can do it much better. And we can also do it right:

Explosion is destruction.
Implosion is construction, fusion.
Oxyhydrogen expands into vapour, and instantly shrinks back to pure water.

In the 1970's Yull Brown (alias Ilya Valkov, 1922-1998) first showed his water powered car to Australian TV-cameras. He also explained to US representatives how to stop the radioisotope americium from being radioactive:

He simply held some americium and steel in the oxyhydrogen flame. After a few minutes there was a sudden flash and the radiation was gone. It had dropped from 16000 curie/min to less than 100 curie. The radioactivity had been converted into light in the oxyhydrogen implosion. The whole spectacle lasted less than 5 minutes.

So, the oxyhydrogen flame transmutes chemical elements. Much easier and in the right direction, from unstable into stable.

The Experiment (radiation free):

Heat some charcoal powder a few times in the flame and then test it with a magnet. It will become magnetised. Either there is a significant amount of iron particles in the charcoal each time, magnetised by the heat, or it is a transmutation.

If we are right, we can now stop radiating isotopes from being radioactive and make all radionuclides fall into stable (non radiating) elements. All we need is an oxyhydrogen flame and a few minutes of time. **No more nuclear waste. No more nuclear weapons.**

System Error? The periodic table of the elements is also shown erroneous. We recommend helical periodic tables.

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FYI:

Some of you may now feel the sudden urge to tell the world what is going on. Please be aware that we, the good citizens, usually are the very last to get informed.

Chances are that we are way too late already. Also, the transmutational de-radiation via an oxyhydrogen flame has been known from scientific experiments since 1880 at least. Whoever knows all this, they haven't told us. It seems we just re-invented the wheel, while others are already flying to the moon. More on p. 64.

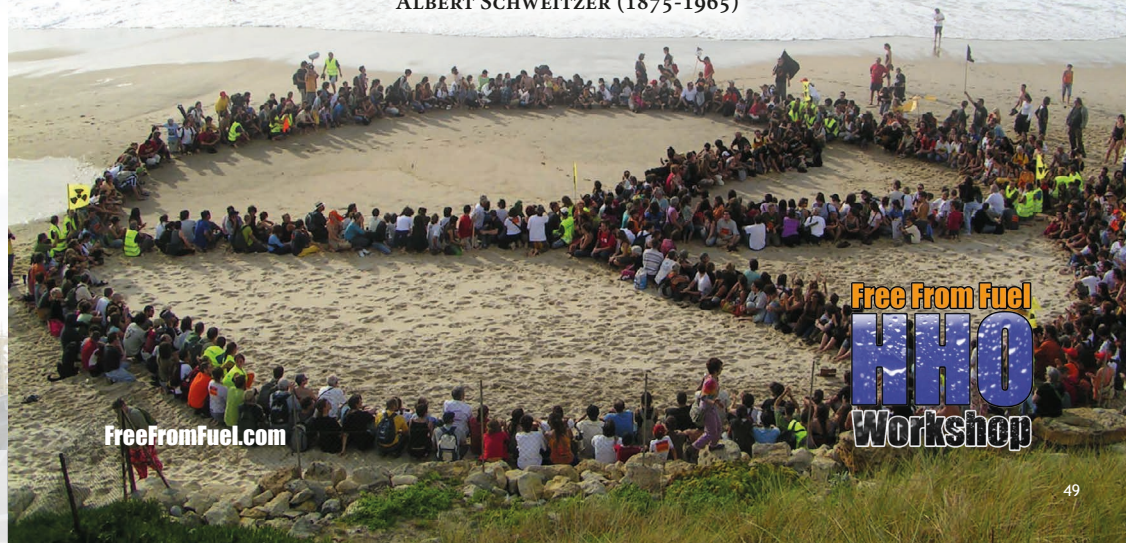
What we do know: Today's principle was already discovered during the First World War and was forgotten shortly afterwards, like many other military secrets. In the 1970s it was rediscovered by Yull Brown, who joyfully showed it to US officials and Chinese technicians. Since then, they have known how to convert radionuclides, weld, heat and even power cars. Their devices were anything but efficient back then, but industry and the military are not interested in efficiency, they want performance. Since the 1990s, large Asian companies have built powerful oxyhydrogen plants for industrial use. We assume that the technology has developed a lot since then. Strangely, modern scientists refuse to discuss it, even though we have shown them working plants on camera. Is it still a military secret?

Why haven't we been informed? Why won't they use it officially for the benefit of the people? Because it is too cheap and easy? Because anyone could rid the world of nuclear waste and even nuclear weapons within minutes? Hmmm. More on p. 64.

De-radiation via scalar field:

There is another simple way without any oxyhydrogen: Setting power to a bifilar coil ("caduceus coil", "Smith Coil") will reduce its inductance, but of course the electric resistance will remain. The coil then produces a scalar field without any hertz or electromagnetic field. This scalar field is really hard to measure, but inside this scalar field you can lower the radiation of radionuclides almost entirely, which is of course perfectly measurable.

"People who never saw a misfigured baby born, never heard
its whimpers, never witnessed the shock of the poor mother,
only those without a heart can promote the insanity of nuclear fission."
Albert Schweitzer (1875-1965)



Combustion Engines

For safety reasons, we only explain as much as a car mechanic needs to know. This is for certified professionals only. We strongly advise against making unauthorised modifications to equipment or vehicles. This may result in loss of operating licence, insurance cover and can cause damage or injuries.

Please note:

1. Internal combustion engines have been nothing more than modified steam engines with just under 30% efficiency since about 1860. They convert more than 70% of the supplied energy into pure heat. So all we have to do is make these inefficient engines run cooler. HHO performs this task perfectly. Less wasted heat means more power.
2. Oxyhydrogen is completely different from the air-fuel mixture. No combustion engine is designed for it. In the film we show you in animated graphics how you can convert a 4-stroke internal combustion engine into a 2-stroke implosion engine that is perfectly designed for oxyhydrogen. Or just use a gas turbine, it's more efficient and easier to adapt.
3. In most countries it is not allowed to use oxyhydrogen gas on the road. Oxyhydrogen is an explosive, even if you just carry water in the tank and produce the gas on demand. You may have to comply with a lot of regulations and obtain approval for road use for any modification. We strongly advise you to experiment only on your own property.

Customer photo: HHO powered RC model engine

Diesel Engines:

Oxyhydrogen differs too much from diesel. As an additive it only saves 15-20% of fuel at best. We recommend the following alternatives instead:

1. "WVO" (waste vegetable oil, see next page)

2. "GEET" (see p. 56 for free construction plans)

3. Wood Gas (p. 58)

4. Water vapor injection (simple explanation on p. 53)

5. A fuel optimizer (e.g. drionpower.de, see image). We have no idea what is inside or how it works, but we have good experience with it. It can save 15-25% diesel without any engine modification. Locate it next to the fuel intake on the engine block.

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Gasoline Engines:

Why can gasoline be (partially) replaced by HHO?

1. In every conventional fuel, H2 is the burning component.
2. The main component of gasoline is water.
3. Only the hydrogen (H2) from this water portion is used for the gasoline combustion. The rest of the expensive petroleum mixture is used only for lubrication. Gasoline is therefore a completely unnecessary environmental poison.
4. Water naturally contains much more hydrogen than petroleum. This is why water is more efficient than gasoline. :-)

Old gasoline engines without electronics will run cooler and more efficient, even when using oxyhydrogen as an additive only. Less heat means better efficiency. The gas gets burned better, you will save fuel and have less emissions. But keep in mind: No conventional combustion engine was designed for pure oxyhydrogen. You will have to modify it.

- **Optimize Engine:** Use light oil, ceramic additives, iridium plugs, thick ignition wires and ignition boosters. Grind in leaky valves. Do anything that makes the engine more efficient.
- **Size Matters:** Large engines = more efficiency. Low RPM and little displacement = less gas consumption. Cheap emergency generators have very inefficient engines.
- **Modify Engine:** Emergency generator engines often have two sparks (!) instead of one within each 4-stroke cycle. This causes oxyhydrogen flashbacks. Either grind-in the leaking valves, or suppress the second spark via electronics, or control the spark signal with a reed switch and a magnet mounted at a 1:2 gear wheel from the crank shaft.
- **4-stroke Engines:** The more oxyhydrogen, the later the ignition point. The less oxyhydrogen, the earlier the ignition point (up to 10-15° before top dead center). HHO explodes fast and shrinks back to water, pulling the crank up, before the gasoline even starts exploding. Prepare yourself for a lot of arduous fine tuning.
- **Add Extra Oil:** All engines need lubrication. In normal use, unburned gasoline oil lubricates the engine, which is then afterburned in the catalytic converter. But oxyhydrogen does not contain oil. It does not lubricate the engine. So the more oxyhydrogen gas you feed into the engine, the more oil you have to add. For this reason, oxyhydrogen alone would destroy any conventional combustion engine. It was not made for it. Be nice to your engine and never go for 100%.
- **Add Carbon to the Bubbler:** Add some alcohol, gasoline or oil to the bubbler (up to 20%). This makes the engine run faster and will save you oxyhydrogen. It works homeopathically, because the alcohol content somehow does not decrease. There were hobbyists who eagerly experimented with different types of liquor ;-)
- **Water Vapor Injection (as an alternative to oxyhydrogen):** Add some steam as an additive to the intake. This will save you fuel. This was common knowledge in the 1980s.
- **Additive:** Oxyhydrogen as an additive can save up to 50% gas, depending on the engine, DryCell, environment and your skills. You need very little oxyhydrogen (<300ml/min, even with large engines) and a small DryCell. More on the next page.

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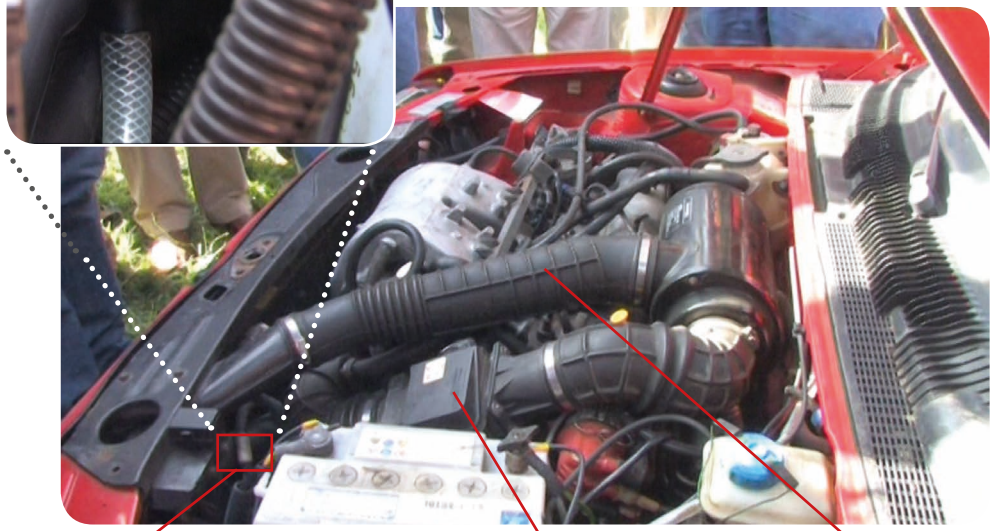
“Modern” gasoline engines have lots of computers to compensate for the low efficiency. These computers detect and work against manipulations. But sometimes you can easily fool them. If that does not work, get an old engine. Now this is what sometimes helps with modern cars:

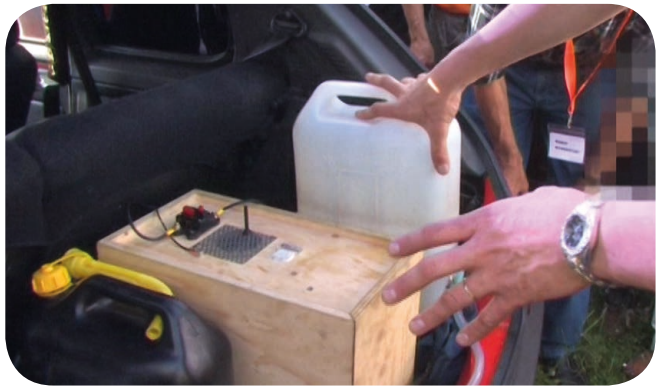
*This gas engine uses oxyhydrogen as an additive. We show more of this car on the **FreeFromFuel film**. A cloth is stuck in the air intake pipe before the airflow sensor. Behind the sensor oxyhydrogen is being inserted via the white garden hose. The sensor detects too little air and tries to suck in more oxyhydrogen. This worked once but might not work somewhere else.*



A garden hose feeds oxyhydrogen behind the airflow sensor. The DryCell is in the rear luggage compartment.

Airflow sensor

Somewhere here the cloth is stuck in the air intake pipe



View into the trunk of the car. From left to right: Empty black canister (currently unused), DryCell (concealed in a wooden box to make it look like payload), 10 liters of water storage canister (white) for semi-automatic refill. You can see the white hose from the canister to the DryCell box.

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Block Heating Stations:

Before you painfully convert your expensive block heating station, this may be an alternative for you:

Peters Stirling model, flamelessly heated with pure oxyhydrogen, powering an electrical generator model.

Alternatives to converting a block heating station:

1. For heating up the room, use the “Lime Light” (see p. 47), or build yourself a rocket stove, and use a solar cooker for cooking. These inventions are both very simple and much more effective than an ordinary wood stove. See p. 70.
2. For electricity, use a conventional photovoltaic system. This is the easy way. More complicated: Heat up a Stirling engine flameless with pure oxyhydrogen (the same functional principle as the Sand Heater). The Stirling then powers a conventional current generator, which is exactly what a Stirling engine is designed for. To make the Stirling engine react to pure oxyhydrogen without at flame, dip the heating side of the Stirling into chloroplatinic acid a few times, then dry it with a Bunsen burner to anneal the platinum coating. We already explained that on p. 45. Now the Stirling will heat up from pure oxyhydrogen without any flame, as shown on the images above.

Alternative for Diesel engines: Waste Vegetable Oil

Old Diesel engines can easily be converted to **waste vegetable oil (“WVO”)**, even legally and eco-friendly. Often you will just need a new diesel filter and a preheated diesel hose for the engine — if the fuel injection pump accepts WVO at all. You will find lots of legal and certified addresses online. Web search for “convert WVO” plus your home town.

“The utilisation of vegetable oil as a fuel might be neglectible today.
But it will become as important as petroleum in the near future.”

From a Patent of Rudolf Diesel 1912
Rudolf Diesel designed his engines for vegetable oil. He died in 1913 under unsolved circumstances.

Another Alternative for Engines: GEET

Gasoline & Diesel

In short: The engine is modified to work as a steam engine with parallel oxyhydrogen combustion. The exhaust is converted into a heat exchanger for the intake. This was even commonly used in WW2 to shorten the acceleration time of fighter jets. All you need is some water conduits from the hardware store. See image below.

The conventional carburetor and exhaust are removed directly at the engine block. Instead you connect the GEET directly to the fuel intake and exhaust outlet at the cylinder block. The engine block itself remains untouched. The working principle is shown on the next page. Without any other external energy source you can save up to 30% gas or 20% diesel. Some report up to 50%.

Free developer Paul Pantone taught his knowledge in public and was threatened, robbed, defamed, chased and locked up in a mental hospital in Utah for decades. Nevertheless the plans for his GEET ("Global Environmental Energy Technology") are still all free for private use:

rebuilding.geetinternational.com/free-plans

Thousands of campaigners helped finally release him from the clinic in May 2009. He still teaches DIY seminars at

geetinternational.com

The local authorities of Vitry-sur-Orne in France run their cars officially with GEET since 2000. Their construction plans are detailed enough for replication:

panaceatech.org/DopageVitry_English.pdf

More:

panaceatech.org > courses > search term "GEET"
hydronica.blogspot.com

The French farmer Antoine Gillier made a further development which is even more efficient. Christophe Martz and Jean Louis Naudin explain it in detail at **quanthomme.info** (in French). Since then hundreds of French farmers have converted their heating oil trucks:

quanthomme.info
panaceatech.org/Leo Umila supplemental GEET.pdf
(the blanks are intentional!)

Image shows Peter with a GEET from ordinary water conduits.

How GEET works

1. **Carburetor = New Fuel Tank.** Filled with oil and water, preheated from the exhaust fumes. The vapour starts to cook from the inlet manifold vacuum and is being sucked into the heat exchanger. Paul Pantone himself claims 20% gas/diesel and 80% salt water to be the best mixture. Others use 50/50% fuel/water.

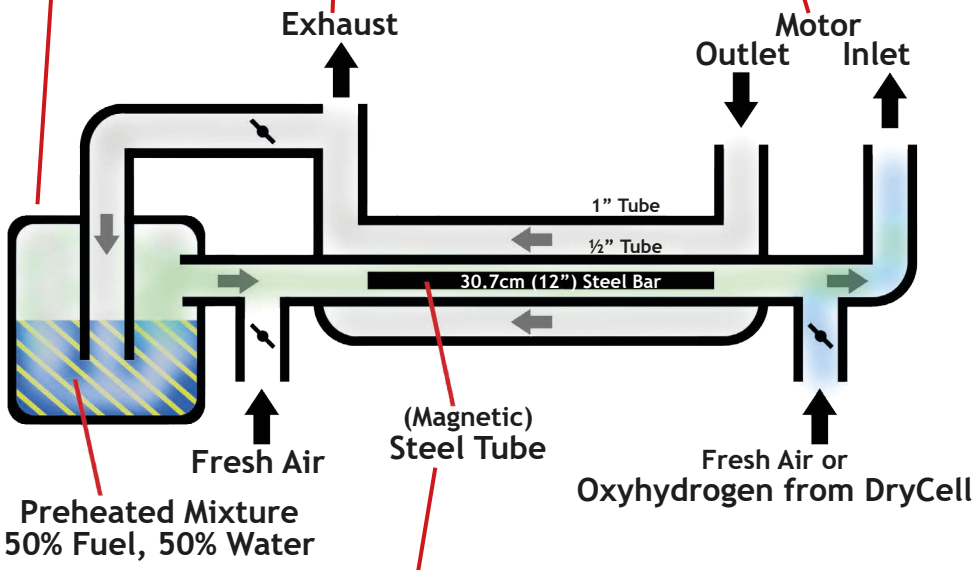
2. Replace the exhaust with a **heat exchanger** from a double-walled steel tube (1" outer tube diameter, ½" inner tube). The exhaust fumes in the outer tube heat up the fuel mixture in the inner tube. The engine inlet suction produces a vacuum in the inner tube. The vacuum helps condense the fuel mixture into a much more efficient gas even at (relatively low) exhaust temperatures. The better the vacuum, the less heat we need for the reaction to start.

In detail: The conversion is called **electrocatalytical steam cracking**. Larger (heavier) molecules are split into smaller molecules and dissipated into high-energy plasma (plasma is a gas from lucid ions). **Gas discharge** is happening in the inner **cyclone tube** with enormous heat, under pressure, centrifugal forces and gas vortices of above 100.000 rpm while developing a magnetic field. The GEET rector is basically a small refinery. It fragments gases and rejoins them in a better way. Or just like a controlled thunder storm: Cold and hot air masses converge and electrical charges develop. It makes the ionized gases glow.

3. The **ionized vapour mixture** is directly sucked into the engine inlet. There is no more carburetor needed.

When ignited the oxyhydrogen first implodes into hot water (1860:1), but evaporates instantly again to vapor due to the heat of the engine. The vapor already expands while the diesel starts exploding. We now have a diesel engine and a steam engine at the same time. This increases the pressure inside the cylinder and you need less fuel for the same output power. Meanwhile the expanding vapour cools down, so the engine block just gets hand-hot. It has less thermal loss and runs more efficient.

The **exhaust fumes** are cool and almost odorless. The GEET produces a perfect fuel mixture that burns more efficiently and hardly has any carbon hydrides and unburned carbon particles left. The exhaust fumes will be similar to those of a modern engine. **The more fuel your engine needs, the more GEETs you need to install in parallel.**



A metal **bar** inside the inner tube increases pressure and reaction surface. Paul Pantone recommends a length of 12"=30.7cm, Leo Umila from PanaceaTech instead uses 2x 6"=15.36cm in 2 parallel GEETs. Some say the bar has to be pivotable. In the resulting 1mm air gap between bar and reaction tube spiraled gas turbulences take place. The thicker the oil, the longer the steel bar (and the GEET accordingly). Make a first test run, then disassemble the GEET and look for stained marks on both ends of the steel bar, this is where you have to cut it. The plasma reaction only works with strong magnetic forces, vacuum and heat (the more vacuum the less heat, and vice versa). Radially magnetized AlNiCo bars are temperature proof up to 400°C, but very expensive. Alternatives: Mount solenoids around the reaction tube. Pantone is also supposedly said to activate the GEET by aligning it southwards for the first 30 minutes after starting the engine.

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Almost forgotten: Wood Gas

Gasoline & Diesel

Old gasoline- and diesel engines will run without any modification on a **mixture of wood gas** (from a gas generator) **plus oxyhydrogen** (via DryCell). All you need for fuel is wood waste, nutshells, charcoal, coal or whatever you have. Wood distillation is much more efficient than burning wood. Wood gas has about 1/3 less fuel value than gasoline and also explodes more slowly. You can easily compensate this by adding some oxyhydrogen from the DryCell.

Fuel shortages during WW2 made this a common modification for cars, trucks and buses. It soon fell into oblivion due to the short cruising range (50km per load), high maintenance requirements and low engine power. 2.5kg of burning wood = approx. 1 litre gasoline

Even today skilled craftsmen can rebuild such gas generators, or modify existing ones for automobile purposes. But do not expect to get an official approval and homologation for road service too easily.

More (in German):
bhkw-forum.de, holzvergaser-forum.de

Sadly we did not get permission (yet) to print a wonderful schematic black-and-white drawing of the **"Imbert Gas Generator"** here. Do an image search for "Imbert Holzvergaser".

An Audi 80 with DIY gas generator and simple cyclone filter, Helsinki 2009
Photo courtesy Abc10, wikipedia.org

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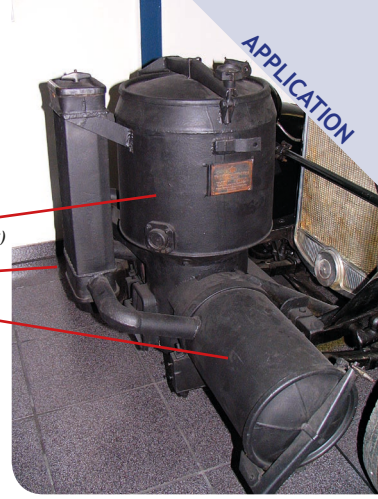
This is how a wood gas generator works:

(1) wood gas carburetor
(2) gas cooler
(3) gas filter



Opel P4 with wood gas carburetor
wikipedia.org

The gas carburetor is simply a double-walled boiler. In the lower part wood waste is burned to charcoal. The result is a lot of highly combustible carbon monoxide.

In the upper part of the boiler is wood waste bulked up, slowly following through. The boiler is closed like a pressure cooker. The only gas outlet is in the bottom. So the exhaust fumes have to cross the flames at the bottom before exiting. This splits up the gas again, which now can emerge through the intermediate wall and heat up the boiler again. This saves wood and heat.

Filters (baffle plates, cyclone filters, reverse flow filters, cork pellets) clean the gas from tar, soot and water while it cools down. Higher density makes it more efficient.

The use of a wood gas carburetor is time-consuming. The carburetor needs a heat-up time of 15 minutes before engine start. At startup a blower feeds fresh air into the boiler. When the engine is running it sucks in the gas for itself just like ordinary fuel. Even when driving you regularly have to rock the charcoal and wood bulk to ensure a smooth operation, you have to refill every 50km, and always carefully watch the gas pressure. Oxyhydrogen from the DryCell is just added directly before the engine intake to prevent flashbacks.

"Why use up the forests which were centuries in the making
and the mines which required ages to lay down,
if we can get the equivalent of forest and mineral products
*in the annual growth of the **hemp fields**?"*
HENRY FORD 1910

BTW: A simple solution for ending third world hunger (no joke)

Hemp is not for smoking. All the rain forests in the world would still be intact, all the starving children in the third world could eat their fill, even self-sustained, without the greed of some worldwide corporate groups. Here comes the Sunday Sermon about environmentally sustainable resources.

Hemp (Cannabis) originates from China. For a long time hemp and flax were the most commonly used fibrous plants in Europe. All great artists like Rembrandt and Van Gogh painted on hemp linen. The Gutenberg bible, maps, the first draft of the US Declaration of Independence and the US constitution were written on hemp paper. Benjamin Franklin had one of the first paper mills using hemp. From 1763 to 1769 Virginia even released an obligation to grow hemp. US citizens could pay their taxes with hemp. Even in 1765 George Washington and Thomas Jefferson privately grew hemp in their garden. Until about 1820 all fabrics, clothes, table-cloths, bed sheets and curtains were made from hemp. Until 1880 all class books were from hemp or flax. In 1916 the US government predicted that by the time of 1940 there would be no reason to deforest. From one acre of hemp you can get the same amount of paper than from 120 acres of forest. Hemp grows 30x faster at 4x more usable substance. In its Bulletin 404 the US Department of Agriculture recommended the use of hemp for economical paper manufacture. Until 1937 Henry Ford had his own hemp plantations for the manufacturing of carriages and fuel. Ford was a business man. Hemp was construction material, insulation, fuel, food product, drug, animal feed, even resource for all kind of fabrics and clothes. Unbeaten cheap, frugal and growing again quickly. All of this at the same time.

From 1925 large newspaper publishers, tobacco, explosiv and chemical manufacturers and many others suddenly realized the cheap and ever-sustaining competition of hemp. No need for cotton. No need for crude oil. Hemp grew like weed. Its 4 feed roots loosened the earth and always found water. Hemp was even edible, which could have saved the third world from all the genetically modified crops. To make it sound odd, from 1937 hemp was officially called "Marihuana" ("Mary-Joanna"!?). Strangely enough the active component "THC" is legally found in incense! Even Absinth (from vermouth) contains large amounts of thujone (similar to THC) as the chief ingredient, at an alcoholic strength of incredibly 50-90%.

*We can do without hemp, but can the 3rd world? We are not allowed to help, but at least **we know simple solutions**.*

Hot Water: Underwater Flame

Of course, the oxyhydrogen flame also burns under water. It already contains everything it needs for self-sufficient combustion. So if you might just have an ultra-high vacuum or an empty planetary room at your disposal, you can try it out there too. ;-)

But you don't need a vacuum: the flame will burn even under water. This is an important proof that it's not "just some air bubbles" that we make.

Here's how to get the flame to burn underwater: Screw or weld a metal cap in front of the welding nozzle which forms an air buffer (see picture on the left). This prevents water from flowing into the hose when gas pressure fluctuates. Then start your DryCell, ignite the flame and submerge it under water. The flame will continue to burn. See pictures below.

But the water will not heat up! No, of course it won't. Oxyhydrogen is already the perfect mixture for burning and needs no outside molecules. So the flame hardly reacts with the water, just as it doesn't react with the atmosphere. Imagine this: We have water burning underwater, and yet it doesn't even react! Obviously, we don't know much about water and nature yet.

So what is to be done? What did we tell you on p.46? The flame gets hotter when it comes in contact with solid matter. Now all you have to do is put a stone (or any other solid matter) in the water next to the flame. The flame will heat the stone and the water as if by magic.

Be careful and do this only for experimental purposes: Your stone will melt, as will any other material, steel, tungsten, gold, even your glass. Later in this experiment, we tried magnesium. It exploded within seconds. Under water. Cool, isn't it?

Above and left: Doesn't look spectacular, but this is the oxyhydrogen flame under water when it has no solid to react with.

The pictures were taken at the University of Natural Resources and Applied Life Sciences in Vienna, 28. 3. 2012.

The same experiment, but this time with a handful of steel wool in front of the flame. It reacts immediately with the oxyhydrogen flame and begins to glow brightly. The water is now heated much faster.

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Efficiency?

or: The electrolysis is an inefficient loop way! Why not heat electrically?

Those who want to heat with electricity may of course do so. Bakeries even heat with wheat, which is cheaper than firewood. We are not concerned with efficiency, but with self-sufficiency, nature conservation and freedom. We are only hobbyists and still facing so many puzzles.

Often heard: "I'm a physicist, so I only measure electricity."

You forgot the water. The sun's energy is stored in the water.

The energy of the gas is already in the water.

We explained this before. Electricity is not the source of energy, only the excitation to split water. The energy of the gas logically comes from the water, which is consumed in the process and must be refueled. Anyone who believes that there is no energy in water should immediately stop drinking liquids or watering plants. Engines burn only the H_2 portion even in petroleum. Water, on the other hand, consists of $^2/_3$ hydrogen, and it also carries the oxygen needed for combustion. The perfect fuel.

There is no closed energy cycle between electricity and water

The law of conservation of energy therefore does not apply. It only says that the energy in a closed system remains the same. But where in the universe is there a closed energy system?

Oxyhydrogen has more energy than pure hydrogen

The funny thing is that official "science" ignores all the energy of oxygen in their efficiency measurements. They say it has no energy. Meanwhile, oxyhydrogen officially has >145MJ/kg, but hydrogen has only 120MJ/kg. So what are we to believe in? Theory or reality?

In 1832, the great scientist Michael Faraday did not have such great materials and equipment as we have today in any hardware store. He was just a bookbinder and hobbyist. Why then does official "science" still treat his experiments as laws of nature? 200 years is a long time! Even we hobbyists achieve "over Faraday" limits with materials from modern hardware stores. Are the scientific efficiency calculations since Faraday perhaps incomplete? Or are they outdated? And, even more questionable, is this done deliberately or out of ignorance?

What is water?

Why can water implode and explode? Why can oxyhydrogen dissociate several times in a row? Why does water show so many other anomalies? All this happens in our humble garage and makes us wonder and doubt. Every water crystal, every snowflake is individual! Water reacts to emotions, as the great photographer Masaru Emoto showed years ago. The Israeli scientist Sabine Normann-Schmidt has replicated this in front of our camera! We think the great naturalist Viktor Schauberger is still right: Water is full of life and riddles and mysteries. And yet scientists treat it like dead matter, even ignore half of it in scientific efficiency measurements. We should first learn to understand nature.

We love to be self-sufficient! We love independence!

We don't care so much about efficiency. We have solar panels, wind generators, fresh water, love and the DryCell, so why should we worry about efficiency? Why do people repeat this like a mantra? Building houses above ground is anything but energy efficient. Combustion engines are even worse. It's not about efficiency. It's about nature.

Maybe we're all wrong.

Yes, maybe. Who knows.

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Frequently Asked Questions

Can I buy DryCells from you?
Yes, we offer DIY kits from our German store (see photo on p. 6): Wasserstattsprit.info

But this DIY manual gives you all you need to become self-sufficient. Knowledge makes you free. Consumption makes you constrained. We want you to become active and independent yourself.

Where can I find such workshops?
We do not organise workshops any more. The DryCell is public domain, so anyone can replicate it. We think our film gives you the best (and cheapest!) workshop. ;-)

What is the password to your webseite?
Web: FreeFromFuel.com/customer-area
Password: WeAreFree

Are these fuel cells?
No, just the opposite! Fuel cells generate electricity from hydrogen. The DryCell produces combustible gas instantly from electricity and a little water. Much simpler.

Electrolysis is an inefficient detour! Why not heat with electricity?
Electrolysis is only the impetus for conversion. The energy for the gas comes from the water, which has to be refilled. More on p. 59.

How efficient is the DryCell?
Our DryCells use about 0.5ml of water and 130-160W of electricity per liter of gas. That's pretty good. But we are not about efficiency, we are about self-sufficiency and freedom. We are just simple hobbyists and still face many puzzles ourselves. More on p. 59 and pp. 64-65.

Is the invention patented?
The DryCell is not patented. It is free knowledge, public domain. It may be copied and improved by anyone! No one can conceal it.

Are there scientific measurements?
There are contacts to established universities, but the mills of established science grind very slowly. To all skeptics: Rebuild and measure yourself! You would not have believed us anyway.

Why is the DryCell not available in stores? Is it a fake, a toy, or are you just incompetent?
Good question. We are often asked this. Many inventors before us have been stopped by force: Bob Boyce (p. 4), Paul Pantone (p. 54), John Bedini (p. 66) and Stanley Meyer (p. 67). Their inventions work. We have printed for you the links to their blueprints.

The DryCell therefore remains an experiment. We just show that there is more than school physics, toxic oil and nuclear power. We want to enlighten and motivate you. Free knowledge, free people, free world.

Are you an association? Can I become a member?
We are not a club. We are a free group of friends spreading free knowledge for a free world. Everyone can do this.

If the DryCell is free, why do you charge money for the manual?
The DryCell is indeed free, and we have worked hard on it for years.

Our DryCell construction principle is also public. Everyone is free to use it and help continueing the free development! There are no patents, no secrecy, no censorship!

On Youtube we even give away 3 full hours of "FreeFromFuel" footage with bilingual subtitles. There we explain the DryCell and show many exciting experiments. We do all this for a better world. For what has once been distributed on the net is public forever.

Only for the film and the self-assembly instructions we ask for some money, because this way we can continue our research, give you free support and pay our bills. We think that's fair, don't you?

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What are the material costs?
For the DryCell: approx. 300-400 Euro, depending on the size of the cell and material. Power supplies are available from about 200 Euro (or better: NiFe batteries & solar island system). See p. 36 (power supply)

Where do I get the components?
We offer DIY kits from our German store (see DryCell photo on p. 6): Wasserstattsprit.info
You also get the components from hardware stores, wholesalers and pharmacies. Improvise! In nature nothing is standardized. Join forces, that saves money and is fun!

Where can I find like-minded people?
Look for interested friends, neighbors or work colleagues with whom you can tinker together. Post a note on a technical college bulletin board. Look for hobby clubs, e.g. the local radio amateurs. Post messages in survival forums, world travel forums or hobbyist forums (p. 71-72). Since we are basically not a member anywhere, we have no contacts there.

They say on the web that this is just a hoax, although I have built it myself!
There are many who believe propaganda more than reality. Many skeptics believe only universities and television. It is best to leave them alone. However, there are also paid stink makers. Who might be interested in denigrating open source and free knowledge?

I have questions about my DryCell, which I bought (quite somewhere else)!
We are glad that the DryCell is already so widely used! Thank you also for your confidence in us! But why don't you ask your sellers? We perhaps build our DryCells differently, so our tips might not be of any use to you.

Can I inhale the gas?
We do not recommend medical experiments, because we are not doctors or pharmacists.

Is the platinum in the sand heater toxic?
What you mean are platinum compounds used in so-called "cancer research". Pure platinum, on the other hand, has been used since ancient times to make jewelry and in medicine for implants. However, we are neither doctors nor pharmacists.

Can I use other metals?
Better not: copper and aluminum corrode quickly. Titanium is made with a lot of chlorine and coal and requires very expensive rare earth coatings. Cheap (construction) steel will do, and rust doesn't bother. Efficiency means working ecologically and economically (saving money).

Can I use other dimensions and materials?
Of course, nothing is standardized in nature. Each DryCell is individual. The given dimensions and data are only empirical values. Free knowledge lives from experimenting!
Especially autarky-conscious people used white wood ash from the campfire instead of KOH (caution: contamination in the DryCell). One even used old PET bottles instead of expansion tanks and bubblers, which he somehow managed to seal. Anything is possible!

How many steel plates do I need?
That depends on the power supply. S. 35-37

Holes have to be drilled in the steel plates at the very bottom, too!
No!!! That would immediately give a short circuit, and then the cell produces less gas. This is unfortunately a widespread error, which originated from a faulty construction manual in a forum. Actually, every technician should recognize such nonsense immediately.

What is the correct name for the gas?
There is still no uniform international designation, because science has ignored the subject for almost 200 years. See p. 40.

And what is the "WetCell"?
Peter shows it in the film at the very beginning. The Audi driver in the film also uses it. Basically, it's a pickle jar with spiral wire inside. Completely inefficient and dangerous.

Why doesn't the public find out?
See page 64.

You can find more answers at
FreeFromFuel.com/faq

How can we contact you?
FreeFromFuel.com/contact-us

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Trouble? Helpful Hints:

Assembling

Does the setup look like on p. 6? The correct position of all parts to each other is important! See also p. 41 (First Start)

Setup leaking? Hoses leaking? Fix hoses with spring clips (outside) or sleeves (inside) to the hose nozzles. DryCell leaking? Tighten screws, replace seals completely if necessary. Cover plates swollen? Never use wood or HPL! HD-PVC, acrylic or PE are better.

Dimensions: The cover plates of the DryCell must have the same distance to each other: Measure distance with caliper gauge.

Tubes and DryCell are hot? This is normal. The DryCell runs best at 45-60°C. See p. 35-37 (Power Supply)

Explosions? Then something is leaking. Pressure test: Blow 0.5 bar into the output hose with an air pump, kink the hose and wait a few minutes. The pressure must hold.

Pressure relief valves help against excessive operating pressure, but are no protection against explosion. For solutions see p. 24-26 (Arrestor).

Avoid aluminum, it does not tolerate acids/alkalis. Therefore, also use stainless steel or plastic for hose nozzles.

Power

Starting problems? Are the terminal plates installed correctly? An additional central starting plate helps with cold starting. p. 37

Do you have a suitable power supply? A voltage-regulated and capacitive power supply, a solar battery or car battery are suitable, for example. Welding inverters or chargers are unsuitable. Are the batteries empty, the power supply defective or unsuitable? Are the cables thick enough? See p. 35-37 (Power Supply)

Does the number of plates match the power source? At 13.8V there are 8 chambers = 9 plates = 10 seals. See p. 35-37 (Power Supply)

Do the plates have holes even under water? This makes short circuits. This error circulated on the internet for a long time. Replace plates and use our construction plan.

Plates rusty? That does not bother. Our DryCells also rust. If efficiency drops after years, replace plates and gaskets.

Cell dirty, brown inside? Efficiency drops. Clean plates gently, do not scrub. Use only KOH as electrolyte, up to 3% KOH (by weight) per millimeter of plate spacing. Electrolyte is filled directly into the cell only during the very first filling. Thereafter, refill bubbler with distilled water only until it is ¾ full again. See p. 38 (Electrolyte), p. 41-43 (First Start).

Power cable or connection corners of the plates are hot? The cover plates are melting at the connections? Then the contact area between cable and plate is too small for high amperes. Take thicker cables and screw them tightly to the connection plates. See p. 35-37 (Power Supply)

First stop gas supply, then turn off power. If the power is turned off slowly, the gas pressure drops and burnback may occur in the arrestor! Better: Bend the gas hose tightly just before the handle, then turn off the power.

Gas and Foam

Flame blue-transparent? Everything ok.
Flame yellow-orange? Caution, arrestor is wet inside! You had too much water in the bubbler. Switch off cell, blow Arrestor handle dry with compressed air or bicycle pump. Fill the bubbler only ¾ full.

Only high amps lead to gas formation? You either have too little electrolyte in the water, or the power supply is inappropriate. Add more KOH (ONLY in battery mode: up to 30% possible), or replace power supply. See p. 41 (first start), p. 38 (electrolyte), p. 35 (Power Supply).

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Water vapor is produced instead of gas? Your DryCell has become a kettle. Adjust the power supply unit or replace it. See p. 35 (Power Supply)

Still too little gas? Have the steel plates been cleaned? See p. 15 (Assembly). Or you have too little KOH: empty cell and refill completely. See p. 42 (First Start), p. 39 (Electrolyte).

Too much foam? Too much electrolyte. Empty DryCell, see „Emptying DryCell“ (below).

Emptying DryCell: Disconnect tubing on DryCell and hold in a bucket, turn on power and wait until DryCell is empty. Then refill. Electrolyte quantity p. 39

Foam up to the expansion tank? Start cold cell with only a few Ah! Maximum 3% KOH per mm plate spacing. Too much electrolyte? Empty cell and refill (see „Emptying DryCell“ above). Refill with distilled water only. See p. 42 (First Start), p. 39 (Electrolyte)

DryCell fill level: Is the water in the DryCell only up to the hose connection? If there is too much water in the DryCell, there will be short circuits and less gas. Is there too little water in the DryCell? Fill up with distilled water only. See p. 42 (First Start)

After switching off, the DryCell sucks the bubbler empty? This is normal, because the DryCell recovers the used water. Refill the bubbler with distilled water until it is ¾ full again. See p. 22 (Small Bubbler), p. 28 (Large Bubbler).

Handle and Nozzle

Flame too small? The operating pressure must be at least 100-200mbar. More amps, narrower nozzle, plug steel wool tighter. See p. 24 (Arrestor)

Frequent backfires? Use narrower gas nozzle (e.g. 0.6mm instead of 0.8mm). Always use a pressure gauge. Turn off the power from 250mbar pressure. See p. 24-26 (Arrestor)

Arrestor handle is hot (>45°C)? You have burnback in the arrestor. Bend the gas hose tightly, then pull off the arrester, then switch off the power. Open the arrestor. Blue discolored steel wool indicates combustion. The steel wool was not stuffed tightly enough and must be completely replaced. The arrestor is well stuffed when the pressure gauge reads 100 to 300 mbar at 3-5 amps. p. 24-26 (Arrestor)

Water coming out of the nozzle? Your bubbler is too full! It must only be ¾ full. Blow the arrestor handle dry with compressed air or a bicycle pump.

Sintered metal must be fine-pored and fill the handle completely (which is nearly impossible, there will be caverns). Easier and cheaper is fine steel wool. You can really fill all cavities with it, and it is quickly replaceable.

Experiments

You want to use the DryCell in traffic? We strongly advice against it. In most countries it is forbidden, and official approval is hard to get. Alternatives: p. 52-55

You want to heat and cook with the DryCell every day? The DryCell is still an experiment and not intended for everyday use! It must be operated under constant supervision and strict safety precautions, see p. 76 (Safety Advices). However, there are environmentally friendly alternatives: solar thermal, solar stove, rocket stove, bio-mass heater and more. See pages 71-73 (Alternatives, Links & Literature)

Why must the DryCell remain a free tinkering experiment? The DryCell makes free and independent because it works with pure water, soap and solar power. Free knowledge makes free! Many powers fear this. This is why technical test centers consider the DryCell highly dangerous, and “science” even considers it even impossible without having tested it. Toxic gasoline engines and deadly nuclear power plants, on the other hand, are allowed worldwide. Read why on pages 60-61 and 48-49.

More questions?
We help: FreeFromFuel.com/contact

The experiments shown in this manual are still under development and intended for experienced technicians only. Use at your own risk. Consult an authorized specialist if you need assistance. Not for continuous or unattended operation or everyday use. Read the safety instructions on the last page!

Why does nobody know about this?

or: Knowledge is Power.

No CO2, no pollutants, just water? If everything is fine with this little old invention, why doesn't the world know about it so that everything finally gets better? Well, possibly someone is profiting from global stupidity. Knowledge is power.

Yes, we tinkerers all initially felt the heartfelt desire to go out immediately and tell everything to the world's greats "so that everything changes". But soon we realised that they didn't want the world to know! And those who listened, immediately kept the knowledge to themselves. So we now spread our knowledge freely for all. More tips and films on freedom on pages 71-73.

"Why isn't this already on the market?"

Because corporations don't work for the good of mankind, they work for money. And money is power. Those who have power naturally want to keep it, at any price. An invention that makes people free doesn't fit in.

"If it existed, it would be on TV already!"

Yes, really? Well, many journalists have known about it for a long time because they ordered our film. But who pays them? Media corporations, of course. They want to keep knowledge away from us by keeping us ignorant, otherwise they wouldn't have any power. This is why they use billion-dollar mass media and TV satellite networks just to distract us from the meaning of life: Love, joy, honesty and togetherness! Sounds crazy? It is.

"Public opinion does not arise by itself. It is made."
Heinz Alfred "Henry" Kissinger (* 1923)

"But the internet is free..."

On the contrary: the same laws apply as everywhere else. Even more: the internet was developed around 1950 as a spy network for the US military. It still is today. Now even smartphones have eyes and ears and internet contact. Peace and privacy have become precious.

"What does science say about this?"

In 2012, we showed enthusiastic Viennese university professors on camera what has been the industry standard in Asia for 30 years (see photos on p. 58, you can find the original film on WasserStattSprit.info). We thought, now the world is changing. But what happened? NOTHING. They could have easily proved us hobbyists wrong. Sleeping Beauty slept for 100 years? Science has been asleep since Faraday in 1832. Sleeping dogs and sick children should not be awakened.

"But if it were scientifically accepted..."

A theoretical (!) paper is scientifically accepted when it is sent for review to a scientific journal where it is found to be good by an anonymous jury. This does not mean, however, that it has ever been tested in practice. But fortunately, nature is no more interested in science than science is in nature.

"Modern physics is just like an old religion.
Their holy bible is the textbook, their priests are the professors,
and their believers are called students of physics."
Harald Chmela, hcrs.at

Money and politics?

Please consider that there are loving people everywhere, also in business and politics. But mostly big corporations determine politics, because they have the money. "Our" money, by the way, comes from very few families worldwide. They own companies called "banks". They lend worthless paper notes to states, governments and peoples. Then they demand more back than they borrowed. Any toddler understands that this can never work! Nevertheless, they all immediately look for new idiots among themselves so as not to be the last: It's called "economic growth". In reality, it's like a child's game of musical chairs, where there's always one chair too few. And in the end, everyone quarrels.

"If you want to know who has the real power, find out who you must never criticise."
Voltaire (François-Marie Arouet, 1694-1778)

Free knowledge?

There are many other topics that we should also question. Yes, peace, truth, love and helpfulness require that we lead an active life, but they are the only chance for happiness. Whoever is happy is not afraid. And he who is not afraid courageously goes his own way.

"The great cease to rule as soon as the small cease to grovel".
Johann Christoph Friedrich v. Schiller (1759-1805)

Everything has long been there.

Harmonious coexistence could have been possible long ago, everywhere in the world. States could be such wonderful communities of solidarity! They could balance out between rich and poor, strong and weak, even over long periods of time! The necessary infrastructure has long been in place. There is also enough food. Europe alone could feed the whole world if everyone went vegan. All the solutions are already there: water instead of fuel, hemp instead of wood, sharing instead of paying. Even cancer (!) has long been researched and solved, see links on p. 71.

He who rules does not love. He who loves does not rule.
Japanese wisdom

How can we live freely again?

Quite simply. On the last pages you find good ideas and links to make you and your loved ones independent and self-sufficient. Start today! **Now** is the time to be active! In love and peace, constructiveness and helpfulness. And if we all do just a little bit every day, the world will look much better. :-) Please just concentrate on your good wishes, goals and solutions. Stay honest and peaceful. Otherwise we are no better than those "up there". Links to free living on pp. 71-73

"If the wiser head always gives in,
the stupid ones will reign."
Marie von Ebner-Eschenbach (1830-1916)

"Love is the only free energy I know of."
Albert Einstein (1879-1955)

"He who seeks the truth must not be frightened when he finds it."
Chinese Wisdom

"You don't need to be afraid. You only need knowledge."
Marie Curie (1867-1934)

"First they ignore you, then they laugh at you,
then they fight you, then you win."
Mahatma Gandhi (1869-1948)

Other Functioning Inventions

You never know what's fake on the Web. Here we show you other existing and working inventions with correct instructions to replicate:

Functioning replica of the "SSG motor". The tinkering shown here has been running from October 2013 and has been supplying itself (and two old batteries) with energy ever since. And this despite the fact that something is always dragging or running out of round...

Self-powering magnet motor: John Bedini's "Simplified Schoolgirl Motor" (SSG) US Patent 6,6545,444

In spring of 2000, hi-fi technician John Bedini showed 10-year-old neighbour's daughter Shawnee a simple do-it-yourself motor ("North Pole Motor") so that she could take part in a school competition. The joke was that the device generated its own energy. Shawnee won the competition and Bedini got into trouble.

The primitive motor-like device consists of spinning magnets, a bifilar coil, a small modified Meissner oscillator circuit and a lead-acid battery. If you start the wheel, short voltage peaks without amperes are generated. Logically, they cannot be used directly, because no electrical power is generated. However, if you reproduce the circuit exactly, you can charge conventional lead batteries (against all logic) and use them to power the motor, small lights and more. So the secret can only lie in the batteries. Perhaps they work differently than we think.

John Bedini is still being attacked and ignored today, many of his plans on the net are deliberately falsified. Out of caution, he now only builds tiny miniature models.

This motor produces hardly any usable free energy output. But it shows that free energy devices really exist.

Building Instruction: rpmgt.org/JoinBediniList.htm
Videos: youtube.com/rickfriedrich

"If a ten year old can do this and win,
*what the **** is wrong with the whole world?"*
John Bedini

Functioning replicas and manuals of many free energy devices:

The ingenious French researcher Jean Louis Naudin has already reconstructed many "free energy" inventions. He documents his reconstructions mostly in two languages (French and English) and in such detail that they can be rebuilt with a little expertise:

jnaudin.free.fr
jnaudin.free.fr/wfc (Stanley Meyers "WaterFuelCell")

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Other Functioning Inventions

Fission by Natural Resonance Frequency:

Stanley Meyer (1940-1998) split water by frequencies. He used tap water instead of soapy water. The water was in a closed vessel which had the gas outlet, a manometer and a pressure valve at the top. In the vessel were 9 stainless steel tubes with a length of 27", in each tube there was an inner tube with a distance of 1 to 1.5 mm.

Ravi's WaterFuelCell replica
panaceatech.org

The special feature: together with a coil, the tubes formed an electric oscillating circuit (LC). An automatically tuned electrical circuit produced slowly increasing DC pulses (50% on/off) of 20,000V with <1mA at about 42.8kHz.

The outer (-) and inner (+) tubes were electrically connected. Tubes and tap water together formed a capacitor, which became charged as a result. As soon as the capacitor was charged, gas was produced all by itself and the voltage dropped. The circuit registered this and paused until the "capacitor" was completely discharged. The tubes did not get warm during operation, because Meyer's principle was not electrolysis.

What we do not know yet: What did the frequency (or frequencies?) depend on? Which measuring methods or control circuits might Stanley Meyer have used for this?

Meyer's water-powered beach buggy, which he drove around in public, became a legend. Many technicians visited Meyer, including a Swiss expert author couple we know personally. Stanley Meyer was granted numerous international patents after years of testing. An Arab offered him 1 billion US dollars for the patent rights. US military forces also sought his cooperation, but Meyer only wanted to sell one kit for all. As a result, a media smear campaign with mock trials against him began in 1996. A few months before the market launch of his kit, he was poisoned.

The construction plans always remained his secret. If he had simply published them, he would probably still be alive today.

panacea-bocaf.org/meyerswatercell.htm
panacea-bocaf.org/howtheywentwrong.htm
peswiki.com/index.php/Directory:Stanley_Meyer

Other methods of splitting water into gas:

Laser beam, chemistry, heat (thermolysis or pyrolysis from 2500°C), radiolysis (e.g. by electromagnetic radiation), vibration (resonance), etc....

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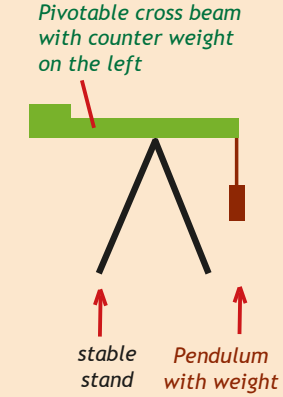
The Milković Pendulum Lever

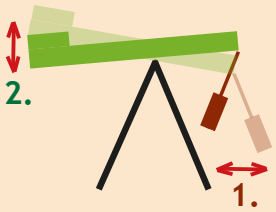
panacea-bocaf.org/veljkomilkovic.htm
pendulum-lever.com

A mechanical power amplifier, simple enough for a kindergarten kid to rebuild. It consists of only **two moving parts** and amplifies any force by 12 times (or more?). At the end, the mechanical path is reduced 12 times accordingly.

All you need is a seesaw and a pendulum weight. See image on the right. We built the depicted models just from leftovers.

A model powering a dynamo torch lamp. The lamp shines brightly, even though we only push the pendulum lightly every few seconds.





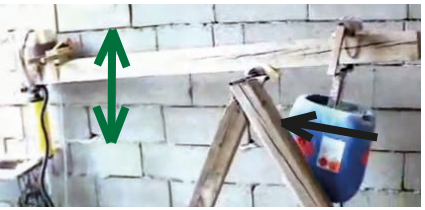
1. *The pendulum is softly actuated by hand*
2. *The pivotable cross beam moves jerkily with great force up and down*

This is how it's done:

Mount a pivotable **cross beam** onto a stable stand. At one end there is a pendulum with a weight. At the other end there is a counter weight. The cross beam must be in balance. Make sure that the tripod is absolutely resonance-free. Otherwise the movement is shifted to the stand, reducing the efficiency.

To start, simply actuate the pendulum gently by hand. The pendulum brings the weight out of balance, the crossbar moves up and down jerkily with great force to maintain balance. From time to time, give the pendulum a gentle push. The force of the cross beam can be used for water pumps, for example.

Images below: The Pendulum Lever pumps up an inflatable mattress. For the first time ever this was relaxing. We gave the pendulum a slight push every few seconds only. Three minutes later the mattress was fully inflated.



A pendulum driven well. The Serbian inventor Veljko Milković (standing on the right side) was granted a golden medal of honour from his home town Novi Sad for this off-grid water pump. Photo courtesy Veljko Milković, wikipedia, 2003

"Earthship": The Self-Heating House

An **earth house** (preferably made of straw bales and clay) is partly built into the slope. The roof is greened and can be walked on. The protective earth layer keeps the house frost-proof and warm in winter. In summer, the earth layer cools naturally and pleasantly. Large windows on the south side keep the house flooded with sunlight all year round. In a northern frost climate, traditionally whitewashed clay straw brick walls protect against condensation, and a south-facing conservatory insulates.

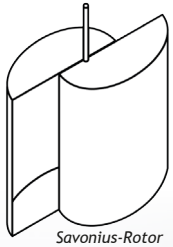
Building services: downhill cisterns collect the rainwater run-off, a constructed wetland purifies the wastewater. Photovoltaics, solar thermal energy, a wind generator and a solar-powered heat pump make the house completely self-sufficient in energy.

Internet search: en.wikipedia.org/wiki/Earthship
"earthships", "umbrella houses", "earth house", "earth home", "earth dome", "earth shelter", "underground living".

Grass-covered earth house in Novi Sad, Serbia:
veljkomilkovic.com/EkoKuca2Eng.html

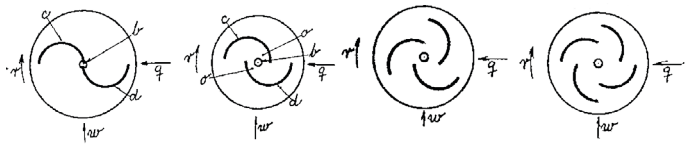
Inhabited year-round by a family of 4:
Self-built earth house in Hungary, seen in the film **vollkommenfrei.at**

Simple and efficient: The Savonius Rotor



Savonius-Rotor (Cmglee, Wikimedia)

Easy to recreate from barrels cut in half, whether plastic or metal. Even beverage cans can do it.
Very efficient, independent of wind direction, requires only low wind speeds (from approx. 2m/s). The less wind, the more rotor blades. With heavy rotors, make sure that the weight is evenly distributed (balance). Often seen as motorless fans on cars and chimneys.



Rotor profiles. Drawings from Sigurd Savonius, Austrian Patents 1925

Combined Savonius- and Darrieus-Rotor (wikimedia, Fred Hsu 2009)

Applications: Applications: Water pump, power generator (with bicycle hub dynamo or car alternator), propulsion on ships and vehicles (also against the wind), motorless fan and many more.

More ideas about saving energy & making friends:

Private car sharing, carpooling, forming driving and shopping communities among neighbours and friends, buying/helping regionally from organic farmers and small businesses, joining solidarity communities and gift or exchange circles, sharing tools/household appliances/books/time/children/fun with neighbours and building up neighbourly help, Holiday with friends ("couchsurfing") or exchange flats, cycle to work, plant edibles on the walls of houses ("vertical gardening"), set up shared gardening, living and living communities, help with the harvest on an organic farm ("WWOOFing"), rent an old farm with family and friends,...

"A New We"

A journey to 10 ecovillages and ecological communities in Europe. Stefan Wolf spent a year filming for this documentary.
He shows how they live and work, how they educate their kids, if they go to school, how they subsist and what they do for their living.
DVD includes all addresses and contacts.

More at NewWe.info

Damanhur Schloss Glarisegg Sieben Linden La Borie Noble Tamera
Valle de Sensaciones Matavenero Schloss Tonndorf Krishna Valley Finca Tierra
A NEW WE
Ecological communities and ecovillages in Europe
www.NewWe.info
LOVE

Thrifty Cooking and Heating

Other DIY manuals:

Solar Powered Cooking:
solarcooking.wikia.com/wiki/Intro
sun-and-ice.de (in German)

Homemade Everyday Products:
EinfaelleStattAbfaelle.wordpress.com (in German)
previval.org/w (in German)

Hot water from the compost heap:
native-power.de/en, biomeiler.at

DIY Rocket Stove:
en.wikipedia.org/wiki/Rocket_mass_heater
richsoil.com/rocket-stove-mass-heater.jsp
solarcooking.wikia.com/wiki/Rocket_Stove
previval.org/w > Rocket Stove

Off-grid water pump without electricity:
Web search for "hydraulic ram", "water ram"

Water pump without moving parts:
Web search for "pulser pump"

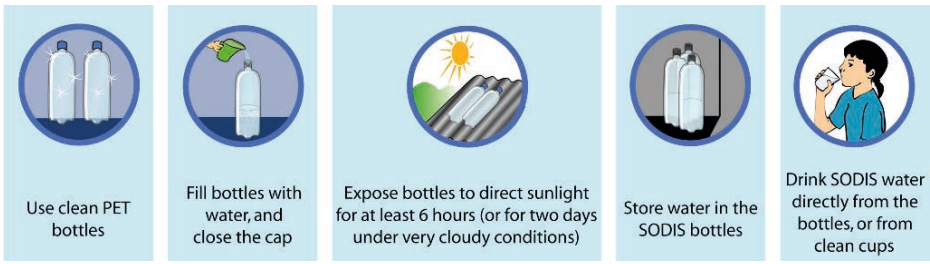
More on pp. 72-73

A very simple Solar heater

Delicious sourdough bread
Instructions from survival-mediawiki.de

Free drinking water for emergencies & crisis areas:

Sunlight makes water drinkable all by itself!
www.sodis.ch
en.wikipedia.org/wiki/SODIS


Use clean PET bottles
Fill bottles with water, and close the cap
Expose bottles to direct sunlight for at least 6 hours (or for two days under very cloudy conditions)
Store water in the SODIS bottles
Drink SODIS water directly from the bottles, or from clean cups

FreeFromFuel.com

Links & Literature:

Free Energy:

2600 pages PDF of free energy inventions:
free-energy-info.tuks.nl

A Truly Working Magnet Motor (see p. 66):
rpmgt.org/JoinBediniList.htm

Free Energy construction plans
and working replicas:
jnaudin.free.fr (in English & French)

Scientific Free Energy Research:
meyl.eu

Free Energy Discussion Board:
overunity.com

Free Health:

germannewmedicine.ca
learninggnm.com

Side Note:

Many of the links and authors are very controversial and are considered conspiracy practitioners or esoteric. We are not 100% of their opinion nor responsible for their content.

Make up your own mind. When in doubt, trust our politicians, media & opinion makers or ask your doctor or pharmacist.

And if the world is all right after all, then we are very happy about our error.

ALTERNATIVES

Links & Literature:

Free Life:

Living abroad:
tax-free.today
auswandern-info.com (in German)

Free education without schools:
homeschool.com
unschooling.com
unschoolers.org

Repairing Together:
Repaircafe.org

Self-Supporter Knowledge:
Appropedia.org
Instructables.com
Sufficientself.com
ifixit.com
Selbstvers.org (in German)
Previval.org/w (in German)
EinfaelleStattAbfaelle.wordpress.com (in German)

Seed Saving:
Arche-Noah.at (in German)
vern.de (in German)
biogartenversand.de (in German)
koanga.org.nz

Community Gardening At Home:
foodisfreeproject.org

Alternative House Building:
builderswithoutborders.org
greenhomebuilding.com
strawbale.com

Sharing Goods:
foodisfreeproject.org
karrot.world (in German)

Time Banks (pay with your life time):
hourworld.org (worldwide map)
timebanking.org (UK list)
timebanks.org (USA list)
Tauschkreise.de (German list)

Local Exchange Trading Systems:
transaction.net/money/lets/ (UK)

Local Currencies:
Complementarycurrency.org (World Map)

Volunteer And Work Exchange:
workaway.info
wwoofinternational.org
wwoof.net

Giving-Away-Networks & Shops:
freecycle.org
alles-und-umsonst.de (German list)

Cheap Holidays:
couchsurfing.com (for free)
airbnb.com

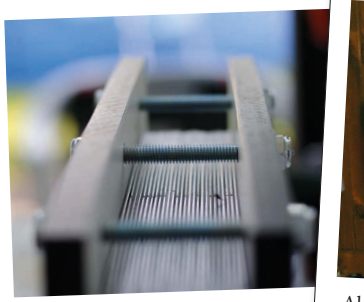
Intentional Autonomous Communities:
ic.org
diggersanddreamers.org.uk
eurotopia.directory

Anastasia - Series Of Books:
ringingcedars.com

More at
LoveProductions.org/english

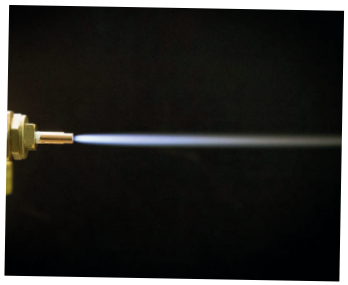
„Live, love, laugh!“
LAO TSE

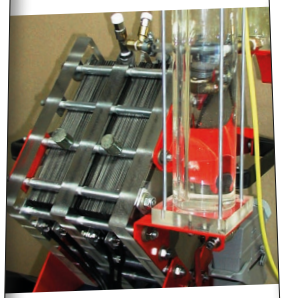
Photos from our customers and friends:

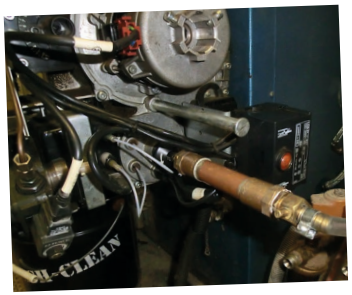

Dennis' Technical Diploma Proje

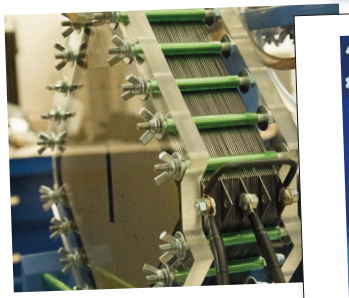
Alexander's DryCell using garden hoses

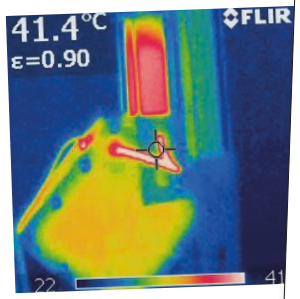
Anton's Swiss Sand Heater


Gerd's HHO Flame


Robert's Big DryCell

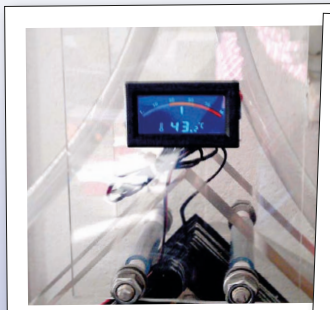

Karl's HHO Heater

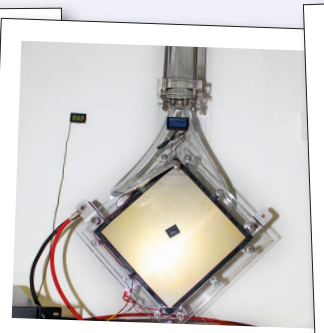

A High Voltage DryCell

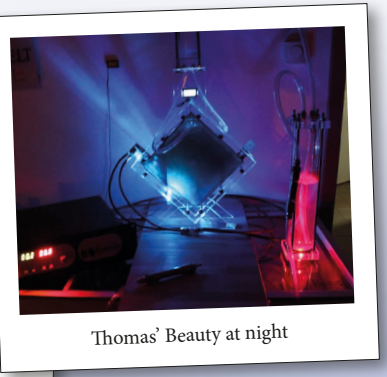


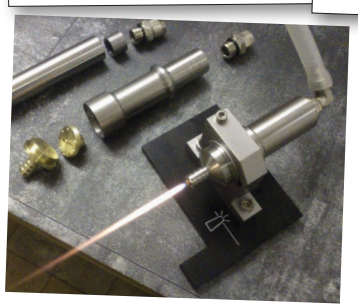
Robert's Infrared Camera

Uwe's HHO Burner


Digital Temperature Sensor

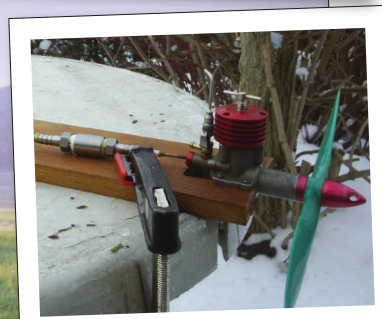

Thomas' Beauty at day


Thomas' Beauty at night


Burkhard's Sintered Metal Arrestors

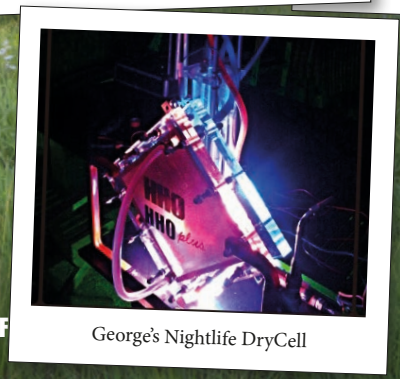
Ecke's DryCell Torch

T's Replica from our manual


Michael's RC Model Diesel Engine

Petra's DryCell

Uwe's Art Gallery


George's Nightlife DryCell

Downloads & Updates:

FreeFromFuel.com/customer-area
Password: WeAreFree (case sensitive!)

FreeFromFuel.com

Please Read! Important Safety Instructions!

This is no bible. We can be wrong. These are technical experiments that represent only a temporary stage of development. They may contain errors and mistakes and are therefore not intended for continuous operation, unsupervised use or application in everyday life. These are experiments with fire, electric current, tools and chemicals. Replicate at your own risk! Only carry out these experiments if you are an adult and have the appropriate experience, professional qualification or legal licence.

Keep children, animals and unauthorised persons away! We also expressly advise against unauthorised modifications to equipment or vehicles! Approved equipment may only be converted by certified specialist companies and must comply with local laws and safety regulations. Failure to comply may result in the loss of warranty, guarantee, insurance cover or operating licence, or in damage to property or personal injury!

Do not carry out experiments in closed rooms or unprotected outdoors. Keep away from rain, puddles, fire, storms or other weather conditions. Only carry out experiments in dry and well-ventilated workshops. Have fire extinguishers ready. Keep away from flammable or explosive substances, weapons, clothing, furniture, mobile phones and other technical equipment. Equipment and surrounding materials can become hot. Do not talk on the phone, smoke, eat or drink during the experiments. Gas is highly flammable and can explode by itself at low pressure! Never let gas escape unused in closed rooms. Do not inhale gas! Do not touch the gas flame. Handle chemicals with care! Never eat or drink acids, alkalis, distilled water or other chemicals! Wear protective clothing, safety helmet, safety goggles, protective gloves and hearing protection! There is a risk of burns, chemical burns, poisoning, explosion and electric shock. Be careful with live connections! Always insulate live components against contact! Wear well insulating footwear! Danger to life from 60V system voltage (depending on local regulations)! Pull out the mains plug before touching live components!

Only operate DryCell under constant supervision. Only operate DryCell with a bubbler and at least one flame arrestor. The diameter of the arrestor nozzle must always be in proportion to the gas volume. Too small a nozzle size can cause back pressure! Attach a pressure gauge and switch off immediately if the pressure exceeds 250 mbar! Before putting the DryCell into operation, check all connections and parts for leaks. Before using the DryCell for the first time, hold it under water (no cables may be connected) and check whether it is tight by blowing into it. No air must escape.

We have no influence on external publications, web links and their contents. We are not responsible for their opinion or content. Please judge for yourself. If in doubt, commission a licensed specialist company, this supports the regional economy.

Threats and patents are pointless, the DryCell has long been public domain. Please publish further developments so that free knowledge remains free. Read the manual and follow the safety instructions in the film and manual! Use your brain before breathing. Thanks for reading!

Have a good time! :-)